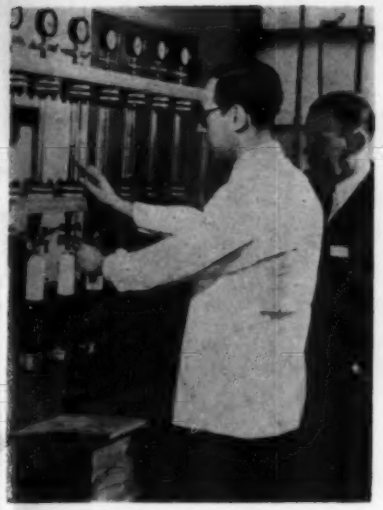

THIS MONTH'S COVER

Research at "Bridgeport — Aerosol City" is typified in this photo of an apparatus for evaluation of propellants in the laboratory of Aerosol Techniques, Inc., Dr. Peter Sgaramella, chief chemist, and Norbert Smith, director of production and manufacturing, study the results of performance of various propellant mixtures. *(Story on page 18.)*

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The magazine of pressure packaging

AEROSOL AGE

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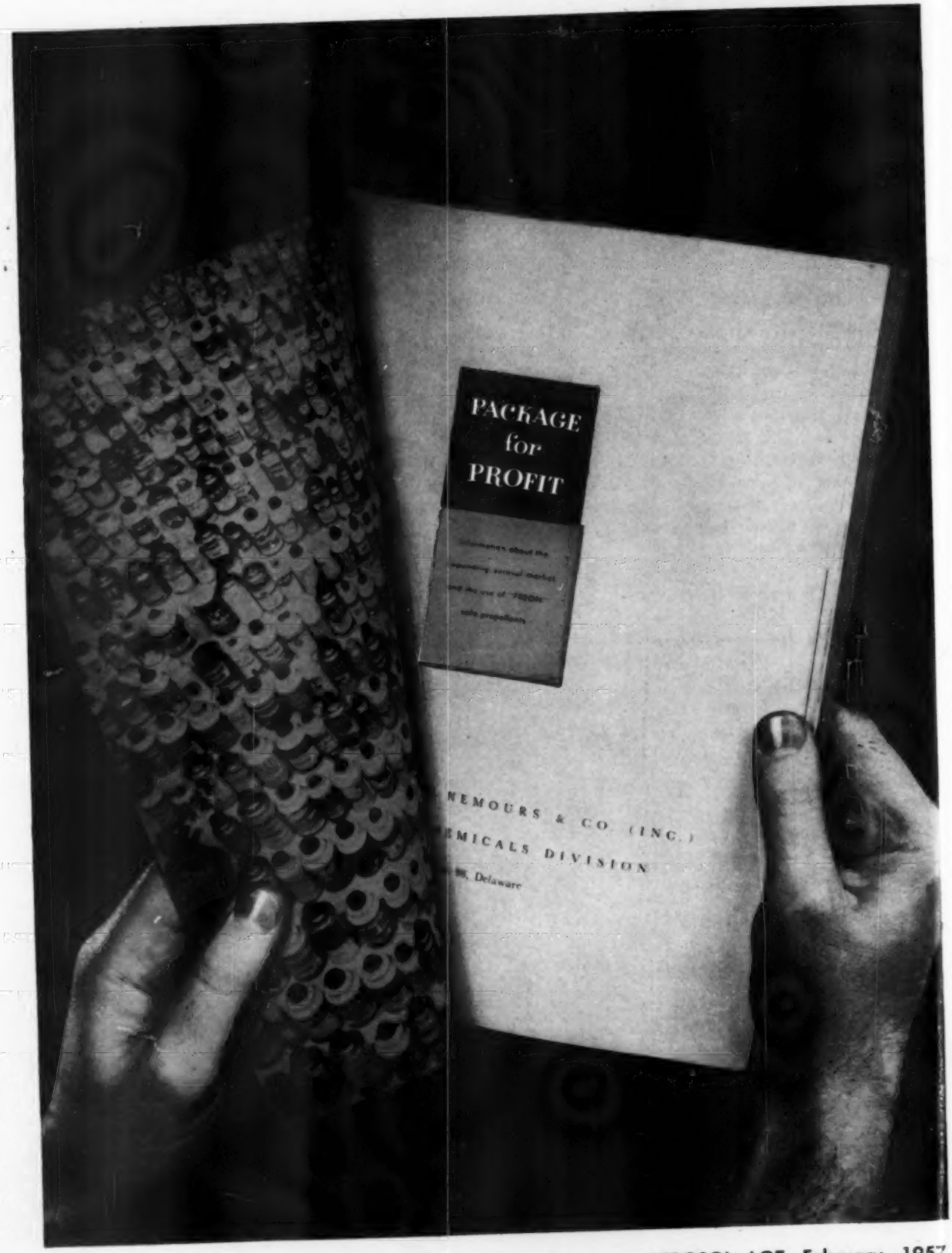
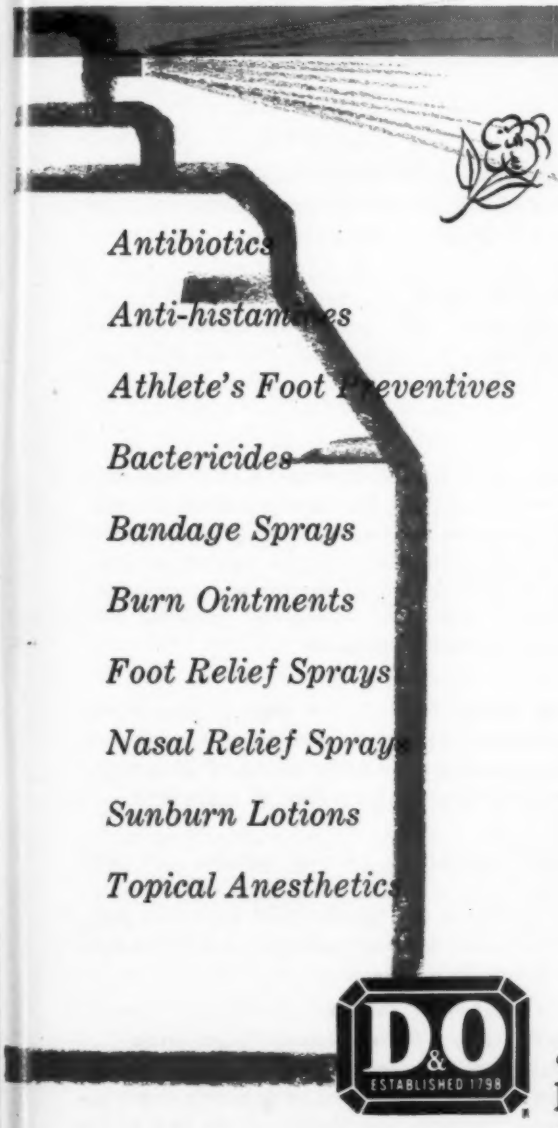


THE *New Look* IN PHARMACEUTICALS



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Sunburn Lotions
Topical Anesthetics

AS MODERN as the miracle drugs are the new "aerosol pharmaceuticals". Although still in the development stages, the specific advantages of pressurized packaging make it ideal for the drug industry. The D&O Aerosol Testing Laboratories have been engaged in pharmaceutical research program for more than three years. During this time a number of specific fragrances and masking odors have been developed and thoroughly tested in the aerosol medium. If you plan to market a pharmaceutical aerosol, the information and experience gained by the D&O Laboratories can be of invaluable assistance. We will be happy to place it at your service.

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BRICKBATS and BOUQUETS
from the
MAILBAG

On reading the reproduction of our letter of 30 October in your December issue, we notice a paragraph in which it is stated that the Dutch aerosol industry does an annual volume of 10 million. This is not true, and I fear there has been a slight misinterpretation of my remarks.

Actually, we made no firm statement at all, but instead asked for readers' opinions. The gist of our remarks was, that even with an annual volume of 10 million containers (which is probably more than home consumption can absorb) Dutch production of aerosol containers is not warranted. This prediction is made because of the difficulty of breaking in on existing markets, particularly in those countries from which the raw materials for container production will have to come.

An annual Dutch aerosol turnover of 10 million, though not considered utopian here, is something in the future. The present estimate for 1957 is in the vicinity of three million, of which, our company may produce two million.

L. Workum
THE AEROSOL COMPANY HOLLAND
Amsterdam, Holland

* * *

We read the article on Pharmaceutical Aerosols by Mr. Morris Root in the first issue of *Aerosol Age* and should like very much to receive the addresses of the firms mentioned in the article. We are interested because we would like to import their products (or to manufacture them on a royalty basis) in Belgium, France, Italy, and Holland.

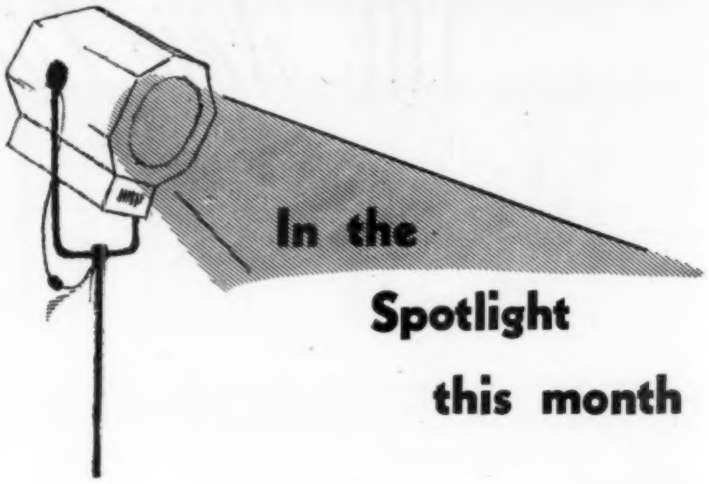
L. A. d'Hollander
NORDICE TRADING & MANUFACTURING CY. LTD.
Brussels, Belgium

We were able to give M. d'Hollander all of the addresses he requested, save those of Americaine, Inc., and Cetylite Industries, Inc.

I would be keenly interested in obtaining any publications on aerosols, either ones you might be able to supply me with or others you might suggest. Everything about aerosols—their application, packaging techniques, etc.—is of interest to me and I would feel grateful for any publications which might serve my purpose. When suggesting or offering these publications would you please indicate the respective prices.

Robert Clonis
Chemist-Pharmacist
Athens, Greece

We have sent Mr. Clonis all available back copies of AEROSOL AGE, *and have suggested a number of periodicals in related fields.*



In the Spotlight this month

- **Pumps for Propellants** . . . The often tricky problem of handling propellants and propellant mixtures is discussed in an exclusive article on page 14.

- **Why Package in the West?** . . . Sylvan Lefcoe, of Par Industries, West Coast custom filler, goes on the bandwagon for filling on the Pacific Coast. He explains how the new propellant plant in California will affect the general picture there. Story on page 17.

- **Bridgeport—Aerosol City** . . . This relatively small Connecticut city was responsible, in 1955, for close to one-fourth of all aerosol packages produced in the U. S., and now produces practically every major component for the aerosol package except propellant. A brief outline of the facilities, personnel, and activities of each of the city's companies, together with many photographs, appears on page 18.

- **Pennsalt's New Isotron Plant** . . . A picture story of the newly-completed propellant plant at Calvert City, Kentucky, on page 21, shows new close-up and aerial photos of some of the massive structures necessary for production of propellant.

- **PVP, for cosmetic aerosols** . . . A raw material that gives evidence of probable use in a good percentage of future cosmetic aerosols is discussed in a special staff article on page 22. With recent production problems being ironed out, supply should be much easier by mid-year.

- **Developments in Pressure Filling, A Report From Europe** . . . Erwin O. Genzsch reports on some recent developments in pressure filling equipment in Germany and neighboring countries, and goes into some European conceptions of the role of the custom filler on page 30.

- **Aerosols in Review** . . . A summation of recent articles, on aerosol topics appearing in domestic and foreign periodicals appears on page 34.

EDITORIALS

Product Pricing . . .

As every new industry goes through its initial growing pains, there has to be a period of trial and error. In the aerosol industry a glaring weakness has developed in one of the most important phases of marketing—product pricing.

Too many aerosol packagers have attempted to compete in the same price bracket with conventional products in non-pressurized containers. Thus they have completely forfeited the advantage of the superior package, in favor of "the competitive price." Early and often spectacular successes convinced too many aerosol marketers that competitive pricing *must* be the correct policy—despite higher per-unit packaging and shipping costs. This trend has continued in aerosol packages which may not even be vaguely competitive with non-aerosol products.

Once the low, competitive price has been set (even on a new, non-competitive item), competition soon appears, the originally established price becomes a ceiling under which the competition cuts, and the whole group is soon locked into an unprofitable market situation. This same pattern recurs too often, despite the demonstrated fact that aerosols are luxury items, whose appeal is in their convenience and novelty, rather than in any economy aspect.

The aerosol industry has been so successful in marketing its novel packages in the competitive market, that in at least four major product types (shaving cream, hair lacquer, room deodorant, and household insecticide) the other-package competition is either being (or is about to be) routed from the field. Marketing experts in the aerosol field can now devote their studies to determining product prices that will be profitable and at the same time fair and attractive to the customer.

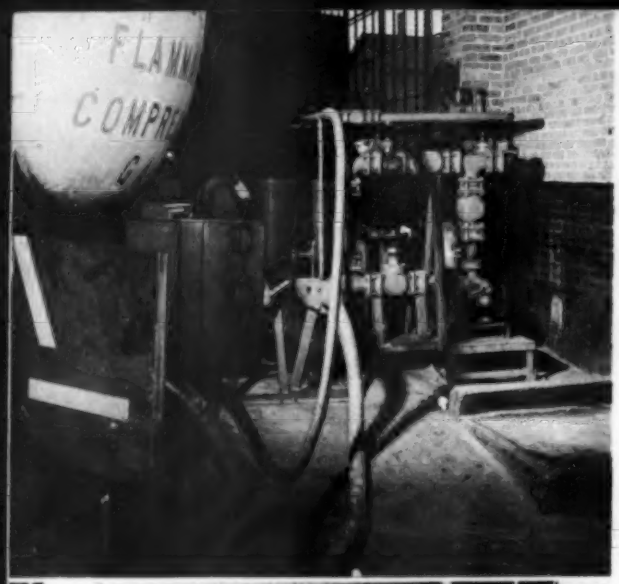
No longer should it be necessary for the higher machinery and packaging costs to be absorbed by the packer or the filler, for it has been proved that the customer will readily pay a little more for aerosol advantages. Where the success of his product type has already been established, the marketer need be less concerned with competition and more with arriving at a price that will assure him a fair profit. If this policy is followed throughout the industry, the percentage of product successes will increase considerably.

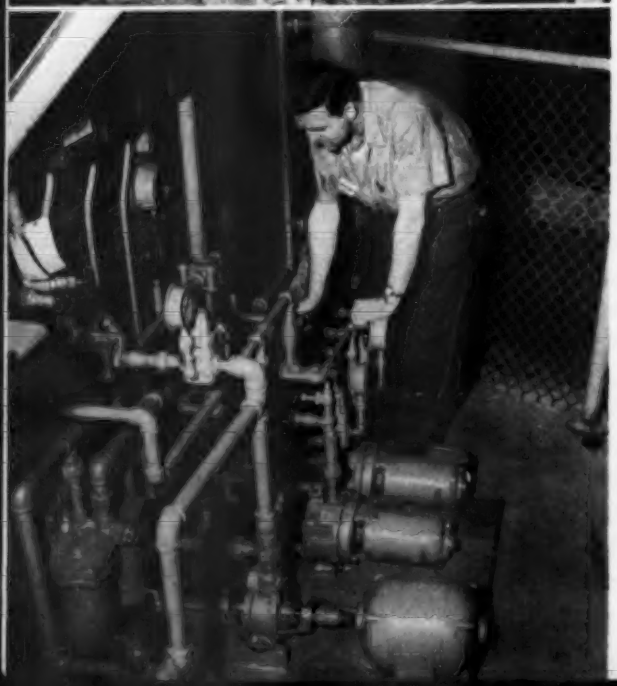
~

More Aerosol Advertising . . .

We'd like to go on record as being one of the few media willing to recommend advertising in a publication other than our own. We would recommend strongly that more custom fillers, and manufacturers of aerosol containers, valves, propellants, equipment, insecticide concentrates, aerosol cosmetics and aromatics should be running listings in the classified sections of their local phone books—under the general grouping of "Aerosols." For example, the Manhattan phone book has only five listings under "Aerosols"—all custom fillers. Philadelphia has none, and we have noted that directories for other major cities carry either no aerosol listings or just a very few. We make this recommendation, not because we love the advertising department of the phone company—but because we feel such convenient listings would make it easier for newcomers to the field to find local sources of supply and information.

PUMPS





Top: 3000 gallons of propellant are unloaded from tank truck in 45 minutes by Aurora turbine-type pump. Then some 500 pounds in vapor form are pulled from the transport.

Middle: Dual type turbine pump installations, with one on standby, transfer fluorinated hydrocarbons to filling lines at 90 psi.

Lower photo: Methylene Chloride, raised from 12 feet below floor level by jet pumps, is fed to suction inlets of turbine-type pumps that supply line to fillers.

THE basic property that puts the push in propellants makes this class of chemicals one of the most difficult to pump. Several have such low boiling points that these volatile fluids must be held at aptly low temperatures when handled under atmospheric pressure, or held under high pressure when pumped at normal temperature. This inherent volatility actually dictates employment of a pump that can operate without becoming vapor-bound when handling vapor along with the liquid. But equally vital, the high price tag on propellants calls for a pump that is virtually leak-proof. Economy can tolerate no less.

As a volume user of propellants, the Bridgeport Brass Company has found vane-type turbine pumps more suitable than gear pumps and other positive displacement pumps formerly used for handling these liquid-gas

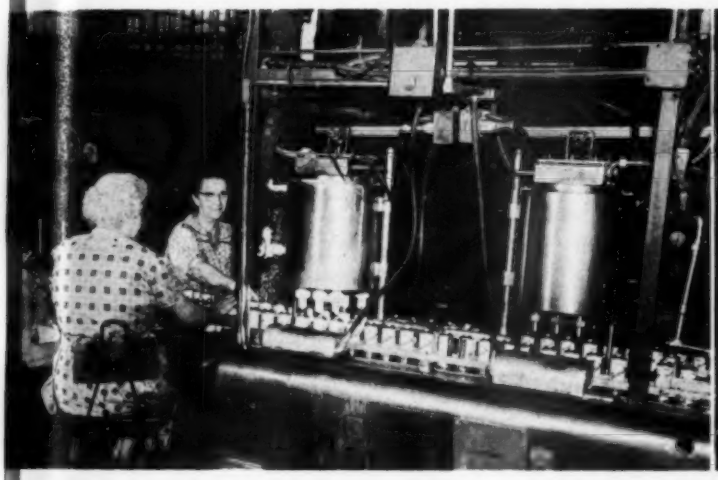
for propellants . . .

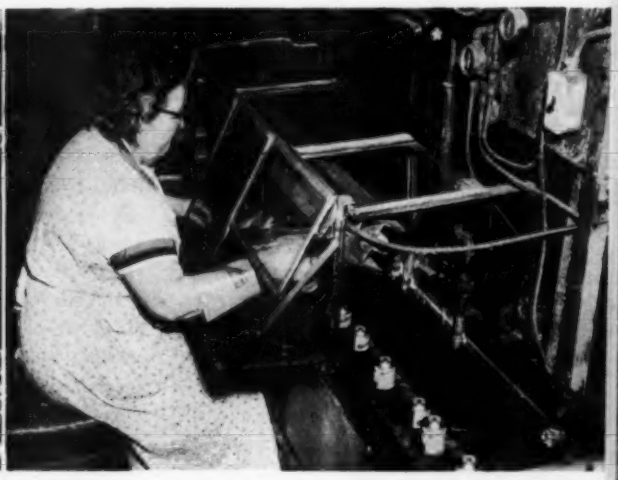
with design characteristics that prevent vapor lock and leakage when handling liquid-gas compounds for aerosol filling

By Vincent Blaine
Superintendent, Aerosol Division
Frank Hawley
Mix Supervisor and Equipment Engineer
Bridgeport Brass Company

Left: Two propellants, one with higher boiling point for reducing pressure, are mixed, refrigerated, and fed to the filling machine.

Right: Any leaker is detected as filled cans pass through a hot-water bath on their way to receive metal covers.





compounds. We tested pumps of all sorts. In fact we made our own leather seals in attempts to stem leakage before adopting the type of pump now serving our plant.

Ever since installation of turbine-type pumps in 1954, their performance has been so satisfactory that the units are all but forgotten. Applications include daily unloading of bulk propellants, and continuous operations of similar nature inside the plant where pumps of this type bring the fluid from storage tanks, through refrigeration, to filling lines. These are difficult jobs for which we find two-stage Aurora turbine-type pumps particularly suited. The units give smooth, uniform delivery all the time, regardless of the need to operate against high discharge pressures or to handle any sort of fluorinated hydrocarbons at sub-zero temperatures.

The pumping of highly volatile propellants is generally conceded to be a real challenge. But we find that the menace of leakage and vapor bind can be successfully arrested by equipment which incorporates basically correct design and use of appropriate construction materials. Pump bodies of cast iron, for example, have little chance of offering normal service life under operating conditions involving frequent temperature changes because expansion and contraction imposed upon them by such cyclic changes tend to develop porosity.

Although the manufacturer makes turbine pumps available in any machinable alloy, even in Monel and nickel, we specify bronze for our units. Bodies made from this dense grained, homogeneous copper-base alloy provide the desired, dependable pressure-tightness needed for handling propellants. Bronze removes danger of corrosion from, or contamination of, the liquids handled. Similar safety is afforded by the stainless steel shafts in these units.

The shaft and radial-vaned impeller comprise the only moving parts in a turbine-type pump. This single moving part has free running clearance since there is no metal-to-metal contact within the pump channel. Accordingly, there is neither the friction nor wear that beset the gear pumps and other positive displacement pumps formerly used in our operations. In fact, the clearance in a turbine pump channel permits insoluble foreign matter to pass without clogging or causing damage to the unit. This, in turn, allows placing filters on the discharge side of the pump, closer to the point where the fluids are actually used.

In the operation of a radial vane turbine pump, liquid enters the

channel on both sides of the impeller, at a point adjacent to the discharge. Vanes carry the liquid, peripherally, for almost a complete revolution before a block diverts this fluid to the discharge outlet. Combined with its peripheral journey, radial flow through the impeller vanes contributes to progressively building up the pressure energy developed in the liquid. The result is exceptional efficiency on tasks involving small capacities and high heads.

An inherent advantage of the turbine-type design is its self-priming characteristic. This feature is most pronounced where discharge is located at the top, because the basic principle employed—separation of air and vapor from a liquid by differences in weight—calls for recirculating a small amount of liquid in the channel. Capacity for handling air or vapor is increased by modifications that include a suction trap on the intake and separating chamber on the discharge, so air intrained at the inlet is discharged into the separating chamber. The suction trap also serves as a small tank to keep an adequate liquid supply available for picking up prime. A strainer in this component helps to prevent entry of extraneous material which might damage impeller vanes.

Ability of a turbine pump to remove air, and thus prime itself, assures the utmost in effective handling of a liquid that is close to its vaporization point. For if bubbles form in the suction nozzle, this type of pump will carry them along with the liquid and get rid of the bubbles in the same way it discharges air in self-priming. Such action keeps the unit free from vapor bind or lock. In addition, turbine-type pumps offer other important features.

Propellants lack lubricity. Along with their highly penetrative nature, this spells trouble when the liquids are handled by pumps that depend on stuffing boxes and packing materials to prevent leakage. For one thing, these highly solvent fluids quickly wash away graphite, greases and soaps incorporated in the packing. Moreover, pumps which rely upon metal-to-metal contact between rotating parts for efficient handling of propellants cannot stand up in this service without continuous maintenance.

In our operations, two features of the Aurora turbine-type pump help us surmount such troubles. First, its impeller holds close running clearances without metal-to-metal contact. Equalized pressure is maintained on both sides of this component through four balancing holes. Thus, high efficiency is attained, yet there is no wear. The second feature that proves especially helpful is its mechanical seal with built-in pressure relief. Instead of packing, the manufacturer makes several different types of mechanical seals available as standard construction in all sizes of standard pumps. This allows selecting seals suitable for temperatures from —80° to +400°F. The type pump we use incorporates a single mechanical seal with built-in pressure relief to reduce pressure to suction pressure. Simply a passage from the seal chamber to the pump suction, the pressure relief also serves as a flushing line to the seal faces. Such design is feasible in Aurora units because the shaft gets ample support from two outboard ball bearings, whereas internal bearings would practically prohibit this built-in feature.

Mechanical seals are essential in all pumps for handling such highly volatile fluids as propellants. Sold and shipped in tank cars and tank trucks as well as in smaller quantities, these liquids are extremely volatile, and to handle them the producers suggest use of turbine-type pumps with approximate capacity of two times the maximum requirement. Sales service memoranda issued by propellant producers carry information related to equipment for storage and handling of the compounds. Serving as guides for marketing personnel assigned to this field, the bulletins list manufacturers of suitable pumps along with makers of other apparatus, and present general as well as engineering aspects of use to sales engineers in evaluating bulk handling factors.

Installations for unloading from tank cars and tank transports call for locating the pump close to the tank, yet as far as possible below the level of the liquid in it, with the suction line sloping down to the pump and avoiding sharp reductions or right-angle turns. Valves that permit straight line flow are a necessity. So, also, are ample-size suction lines as well as large suction openings to keep the velocity of liquids entering the pump suction below 3 feet per second.

Favorable suction-lift characteristics, a wide operating range along with ability to handle vapor and liquid together make Aurora turbine-type pumps well suited for our requirements. Usually a 30,000-pound bulk shipment of propellant, carried by trailer tank transport, arrives daily at the Bridgeport plant for unloading into storage tanks located inside.

The company's storage facilities comprise two horizontal 6600-gallon tanks, each able to hold two 3000-gallon truck loads. Normally the storage tanks are at higher pressure than the trailer tanks. So before unloading, our men connect the storage tank and transport tank with a vapor line of ¾ inch flexible metal hose to assure equal pressure in both vessels. As the next step, they connect the transport tank outlet and the unloading pump inlet with a liquid line of 1½ inch flexible metal hose.

The authors list some of the advantages of vane-type pumps over gear and other positive displacement pumps, and describe some of the techniques for handling propellant mixtures.

Then our transfer pump goes into action and unloads 3000 gallons of propellant in 45 minutes.

Even though all liquid of this sort is removed from the transport tank, some vapors remain. Using a refrigeration compressor, we pull out some 500 pounds of propellant in the form of vapor, condensing it and evacuating the transport tank down to 5 psi. Vapor evacuation takes from 60 to 75 minutes. Thus, the entire task of unloading 3000 gallons of propellant is no more than a two-hour operation.

From the storage tanks, Aurora turbine-type process pumps transfer the liquid to filling lines at 90 psi.

For several years, filling operations took place in a cold room, roughly eight feet square, in which temperature was maintained at 20°F. In this room, millions of cans were filled by twelve rotary vacuum heads. But propellant losses were high and filling machine maintenance at the essentially low temperature was excessive, until we developed a new technique.

The cold room became obsolete with the advent of modern highspeed machines . . . incorporating special equipment . . . for chilling propellant immediately before use in the filling line. Today, bundles of cans loaded into a can aligner are moved past a gravity filler in single file, can-after-can, for filling with insecticide or other product for push-button dispensing. From another filler, a precisely measured amount of propellant that is refrigerated at —30°F. goes into the passing cans. Every action is a split-second operation regulated by microswitches. After adding propellant, the lid-valve assembly, manually inserted, is seamed on the can. If seamless cans are being filled, they are fed through a capping machine. Underweight cans, whatever the type, are rejected by an automatic check-weigher that is sensitive to ± two grams.

The conveyor carries all properly filled cans through a 130°F. hot-water bath for detection of leakers, which are promptly removed. Excess water is blown off the others as they emerge from the bath, after which

(*Continued on Page* 57)

WHY PACKAGE IN THE WEST?

By Sylvan Lefcoe, President
Par Industries, Incorporated

THE aerosol business has had such a meteoric rise that many marketers have tended to overlook the economics of decentralized packaging, facilities. It was not until a few months ago that such a plan was feasible — at least as far as Western distribution was concerned. In many cases (if all factors were taken into consideration) it was just as economical to package in Chicago or New York.

Within the past few months, however, the picture has changed considerably. Even if we discount the possibility of another freight rise, it is now sound economics to fill aerosols in the West. Facilities are available to handle all prospective business and there are five packagers in the Los Angeles area, capable of together handling all the present potential business.

Let us consider all of the component parts of the aerosol business in order:

1. PROPELLANTS
2. CANS
3. VALVES
4. CARTONS
5. CONCENTRATE
6. WAREHOUSING
7. SHIPPING

On November 1, 1956 all major suppliers of propellant started quoting prices that were identical in all parts of the country. Prior to that date, the cost of propellants varied as much as 3¢ per pound, due principally to freight differentials. Since one of the suppliers now can ship directly from its western plant, delivery prices on propellants have been equalized over the entire country.

A similar situation exists for containers. Cans of many sizes are now being delivered in the West at substantially the same prices as in the East. One company still quotes prices FOB their Eastern plant, but there is hope that sharpened competition will level prices on this component too.

Valves are now on a delivered price basis throughout the country. The industry owes a great deal of thanks to these suppliers for the foresight they had in beginning the trend toward equal prices in spite of the added cost they had to assume in shipping to the West and Midwest.

Corrugated cartons are purchased on the West Coast at prices *comparable* with those quoted in the East. In fact, on certain items costs slightly favor the West.

Many chemical concentrates can be purchased in the Los Angeles area at substantially the same prices as in the East. Solvents are in good supply and are about same in price. Some chemicals are available only in the East, but many firms carry sufficient warehouse stocks to supply ordinary needs. Where any volume is indicated, arrangements are always made to provide adequate supplies from these stocks. Perfumes are in good supply, both of local origin and those supplied from other territories.

Arrangements can also be made with most of the fillers to warehouse and drop-ship finished goods. There are about six or seven major markets in the West that can be supplied from the Los Angeles area, including San Francisco, Portland, Seattle, Denver, Salt Lake City, and Dallas. Many distributors of aerosols maintain warehouses in one or a number of these key spots. The freight to these cities from Los Angeles is, in many cases, much less than that from the East or Midwest.

To summarize, it has become economically sound to use the aerosol facilities of the West, especially when the cost of freight from the East is weighted against the slight increased cost of components. Service, today, is an important factor in distribution, so that if time and money are saved, it would appear that no obstacles now remain in the way of increased aerosol packaging in the West. As more and more marketers look to the West, facilities will necessarily become available to handle the increased volume of business. ★

BRIDGEPORT..

IF any city in the country has the right to claim the distinction of "The Aerosol City," it is probably Bridgeport, Connecticut. Currently the site of three of the largest custom fillers in the East, several important smaller ones, a leading aerosol consulting company, a major valve manufacturer, and several other miscellaneous aerosol firms, this city on the Housatonic River easily outranks any city anywhere near it in size, in productive capacity, potential, and resources for pressurized packaging.

In the ten years since the spawning of the aerosol industry, Bridgeport has gradually and surely outdistanced every other city in the field. It can claim manufacturers and dealers in all phases of aerosol activity (except the manufacture of propellant) and may someday conceivably become a leader in the field of specialty containers, a field entered by two of the newer companies in 1956.

The orginator of most of the activity in and around Bridegport and one of the first industry "giants" is the Bridgeport Brass Company, followed closely by what quickly was to become another important industry factor, Connecticut Chemical and Research Co. From these two companies have evolved a good portion of the know-how, and many of the key management and research personnel in the large number of Bridgeport companies now in the pressurized packaging field.

During World War II Bridgeport Brass worked closely with the Army and the USDA in the development of the original "bug-bombs." Though the first such production line units were developed by the Westinghouse Corporation, Bridgeport Brass's engineering and metallurgical know-how made it an early entrant into the field, and by the end of the war it had its own production lines. John H. Mills, of Bridgeport Brass, steered the company's early research and development of pressurized packaging techniques, and it was under his tutelage that many of the other key men in the field got their introduction to aerosols. To the casual observer, this Connecticut city must be an excellent place to live and do business, for when these aerosol people began businesses of their own, practically all of them stayed right in Bridgeport.

From its first experimental venture into the green field of the "bug-bomb," Bridgeport Brass rapidly branched out to a number of different products, and even began doing some custom filling. At the present time its product lines are built around such products as "Bug-Bomb", "Slug-A-Bug," "Good-Aire," "Vet-X," "Ban-X," and several others, most of which have been conceived and developed in the company's own research department.

Bridgeport Brass is currently operating two low-pressure filling lines and another still devoted to high pressure packages. Though the company doesn't publish its production figures, it admits to producing aerosol products running well into seven figures each year.

Key persons in the Bridgeport Brass aerosol operation now are Walter E.

Custom and Private Label Filling.....

(Bridgeport Brass Co.)

(Bridgeport Brass Co.)

.....“Aerosol City”

One of the first aerosol containers made in Bridgeport, this one for the U. S. Navy by Bridgeport Brass in 1943.

Anderson, sales manager; V. J. Blaine, production superintendent, and William E. Baulieu, chief chemist.

NEXT to take the plunge into this new and then somewhat questionable field was the Connecticut Chemical Research Corporation, which was founded in 1947 by a group headed by A. O. Samuels, present president. As early as December of that same year the new company was ready to market its first aerosol through Gimbels Department Store in New York. Developing, improvising, and implementing as it went along, the company had to set up its own lines, to design and make its own filling machinery, and even go into the manufacture of valves and containers to make up for shortages and a plain lack of producers for most of these items.

A valve section was set up as early as 1948, and it was in 1947 that the company first began experiments with plastic-coated glass bottles. During the early 50's Conn. Chemical decided to limit its activities to packaging, and sold its valve and container patents and discoveries to Continental Can, VCA, and other companies. Hunter-Douglas, an aluminum container company, also was sold (to Bridgeport Brass) by Connecticut Chemical.

By 1956 Connecticut Chemical had added a subsidiary in Bridgeport, Bostwick Laboratories, plus another in England (Midland Aerosols Ltd.) and one in Canada (Connecticut Chemicals Canada Ltd.). Last year the company was sold to the B. T. Babbitt Co., New York, but continues under the direction of Mr. Samuels as a major custom and private label filler in the East.

Connecticut Chemical's current capacity is upwards of 250,000 units per day, and with its new affiliation with Babbitt it expects to ship aerosol products as far away as Brazil.

“WE have made more progress in a year than any other filler in the business,” declares H. R. Shepherd, president of Aerosol Techniques, Inc., in business just over a year and one of the younger Bridgeport firms. Mr. Shepherd is an alumnus and of co-founder of Connecticut Chemical.

Aerosol Techniques already has three product lines (plus an additional pilot line) in operation, and in 1957 will have a capacity of close to 30 million units per year. The firm's specialty is cosmetic and pharmaceutical-type products, but it offers packaging facilities for other products as well.

The current staff of over 100 at Aerosol Techniques includes a complete laboratory and research unit. The company employs a staff of outside consultants, including an artist for package and label design. Besides Mr. Shepherd, the majority of the key personnel have been in the industry (most of them in Bridgeport) for an average of ten years each.

E. F. Helfer, president of Powr-Pak Inc., is another alumnus of Connecticut Chemical. Just over six years ago he left to form his own packaging company, and it now maintains three complete filling line and employs over 60 persons. The com-

Containers . . .

(Emson Research Corp.)

Valves . . .

(VCA)

Research . . .

(VCA Laboratory)

Production . . .

(Emson Assembly Line)

Assembly

(Emson Extrusion Machine)

pany has an underground stainless steel storage tank facility, and two outside warehouses.

The three lines together turn out 55,000 to 60,000 units per day. Powr-Pak doesn't specialize, and offers custom filling of everything from "pharmaceuticals to cosmetics to insecticides," and even beyond that.

IN the midst of all this custom filling activity, it is fitting that there should be not one, but two valve companies. The larger of these (and among the largest in the U.S.) is VCA, the Valve Corporation of America, Inc. Founded in 1949, VCA has already attained an annual production figure of 50 million valves, and over the last three years has had to maintain two shifts in its labor force to meet the spiraling demands of the lusty aerosol industry.

The company handles a great number of national accounts, including a number of major cosmetic and pharmaceuticals companies which employ VCA's metered valve. VCA also produces the B8 and the B18 valves for perfumes, cosmetics, etc. packaged in glass bottles, and the B2 Foam and the B9 all brass or stainless steel. The latter is equipped with a nylon stem for hair lacquers, shave creams, cosmetics, etc.

Key men in the VCA picture are Phil Sagarin, president; Roy Ferry, research and development; Sig Was, sales engineer; and Fred Pickering, product supervisor. The company employs over 150 persons.

Emson Research, Inc., was recently organized by Philip Meshberg, who holds patents on the Emson metering valve. The company doesn't restrict its activities to valves, but also makes custom containers of aluminum and stainless steel, concentrating on the smaller sizes up to four-ounces in capacity.

Mr. Meshberg is also a principal in the American Metal Products Co., Inc. (also in Bridgeport), which first became active in the aerosol field in 1949 when it began the manufacture of 12-ounce drawn aluminum aerosol containers. This company also developed smaller containers in the four-ounce size.

American Metal Products Co. is, at present, manufacturer of valves and containers on a contract basis for Emson Research.

BRIDGEPORT also boasts a top consulting agency.

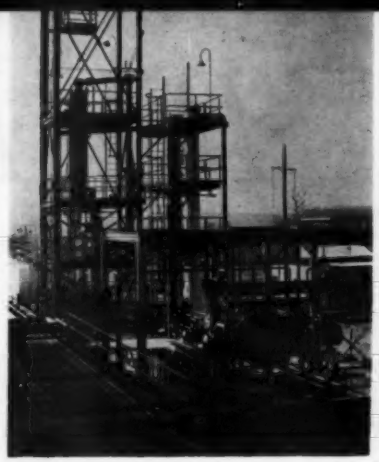
The Reed Research Corporation, formerly the Aerosol Process Co., Inc., was organized in 1955 by Dr. Winston H. Reed, Wainwright Tuttle, and Dr. John W. Eldridge. Dr. Reed and Mr. Tuttle were formerly associated with the Bridgeport Brass Company, and both had extensive experience in product development and production problems relating to aerosols. Dr. Eldridge is an associate professor of chemical engineering at the University of Virginia. In addition, the company maintains a staff of others with mechanical and chemical experience in aerosol and related fields.

Last month the company which provides "research, product development and consulting services" to the aerosol industry, moved to larger quarters in Huntington, Shelton, Conn. just outside Bridgeport. Apparatus and testing facilities are maintained for particle size analysis, flammability testing, corrosion studies, and for research on liquefied gaseous propellant systems. The company can also cold or pressure fill test lots of samples.

The Reed Corporation has done contract research during the past year for a number of large and well known companies in the aerosol field, and from its expanded facilities expects to be able to increase considerably the scope of its services.

LATEST entrant into the growing Bridgeport aerosol industry is the Aer-O-Fil Engineering Corporation. a joint venture of the Wallace Co., the L. A. Whitney Co., and Robins Engineering Co. Aer-O-Fil signed an agreement (in November of last year) by which it became eastern sales and service representative for Alpha Engineering & Machine, Inc. Of the three founding companies, the Wallace Co. specializes in propellant and concentrate fluid systems, bulk storage

(*Continued on Page* 63)

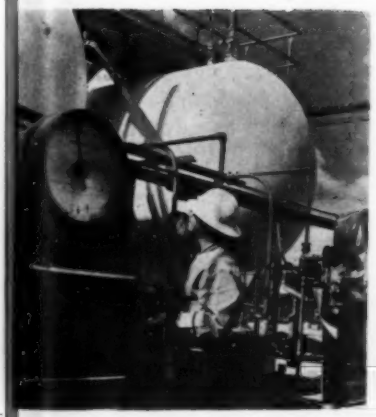


A Picture Report from Calvert City, Kentucky

Pennsalt Chemicals' new Isotron plant at Calvert City, Kentucky, last month completed its first tank car shipment of propellant to Aeropak, Inc., Chicago, Ill. In the photos on this page are shown some of the awesome structures, towers and tanks, necessary for propellant manufacture. With the completion of the new plant, Pennsalt becomes the third major chemical company in the U. S. (with DuPont and General Chemical) to enter the propellant field.

Among the key personnel in Pennsalt's Isotron operation are Wiley J. Pickett, supervisor of propellant sales; David S. Tillotson, head of the sales-service aerosol laboratory; Richard C. Willson, Jr., in charge of Isotron technical service; and Frank A. Lucard, manager of Isotron sales.

Pennsalt Isotron Plant Completes First Shipment



Clockwise: from right:

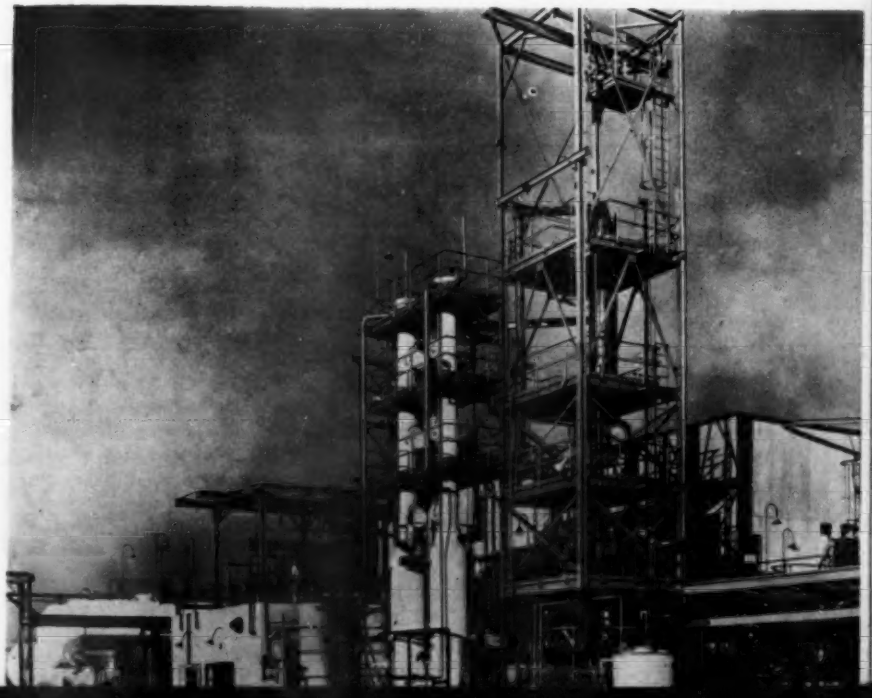
Caustic neutralization system's towers are on a specially fabricated steel network.

Supervisor checks scale at finished product tank. Most of the tanks are on weigh beams for control of quantities.

Aerial photo in early December shows multi-million dollar Isotron unit as it nears completion.

Maze of steel pipes which carry materials to and from major parts of plant are characteristic of the installation.

(Photos: Rotkin, PFI)



PVP

. . . in the relatively short time it has been on the market, this new cosmetic raw material has proved to be a "natural" for a wide variety of applications in the formulation of cosmetic aerosols.

POLYVINYLPYROLLIDONE — or PVP for short — is one of the most interesting and important new raw materials available to the packer of cosmetic aerosol products. In its few short years on the market it has already sparked the sales of aerosol hair lacquers up from zero a few years back to an estimated sixty million units in the year just closed. Now, through the introduction of newly developed copolymers of PVP, an even wider field of use in the aerosol field is forecast for the PVP family through new applications in the formulation of aerosol sun-tan lotions and anti-perspirants.

Sun-tan lotions in pressure packages may be one of the new big volume items in 1957 cosmetics aerosol lines, to judge from comments received by a representative of AEROSOL AGE in a series of recent interviews with custom fillers and marketers, and supplemented by observations from officials at Antara Chemicals Division of General Aniline & Film Corp., New York, sole American manufacturer of PVP.

Aerosol sun-tan was a big seller in the European market this past summer, with "Spray-Tan," a product of Alvex AG, Paris, France having sold a million and a half units. The American market for aerosol sun-tan products can well be expected to experience a similar boom in sales when the sun begins to warm the beaches next summer. And PVP derivatives will certainly help that sales boom along.

One of the particular merits of PVP for sun-tan lotion use is that it is greaseless, while at the same time being an excellent medium for carrying sun-screening materials. Heretofore, sun-tan preparations have had the disadvantage of being greasy, and for this reason their use has been somewhat restricted.

In the aerosol field PVP has experienced its greatest success in hair lacquers. Practically single-handed, it has revitalized and made over the hair spray market. The old type hair sprays were almost always based on shellac, which, of course, is soluble in alcohol — but almost insoluble in water (and thus very hard to remove). PVP, by contrast, is soluble in both water and alcohol and hence can be removed easily. Furthermore, it does not give the stiffness to hair that shellac-based hair spray normally does. The effectiveness of PVP in hair tints is due both to its ability to complex with hair dyes and to its substantivity to the hair.

Another important new use in the aerosol field for one of the new copolymers of PVP is in anti-perspirants. Tests so far indicate that these new PVP derivatives may help give 100 percent protection when used in aerosol products of this sort. However, further development work is indicated before these products will be ready for marketing.

Polyvinylpyrollidone is a relatively new and an extremely intriguing chemical. It has attracted wide attention in the cosmetic and pharmaceutical field because of its unusual combination of properties, which, incidentally, have made it an excellent raw material for a number of cosmetic aerosol uses. It was first made and used in Germany during the Thirties, but was not really familiar to the American chemical industry until the post-World War II era when it came to the attention of Allied

In 1945, General Aniline & Film took over research and development of PVP in the United States, building a million dollar semi-works plant at Linden, N. J. to produce the material commercially. General still is the sole manufacturer of PVP in the western hemisphere. The new $6 million plant at Calvert City, Ky. will substantially increase production of the material, but full capacity has not yet been reached due to the usual difficulties encountered in the transfer of production from the pilot plant stage to commercial production.

Because of the surprising demand which has developed for PVP, due to its successful application in so many different products, this delay in getting the new plant into full operation has resulted in a serious supply shortage over the past six months. It has been necessary to monitor deliveries carefully, and parcel out available stocks. It is hoped that early in 1957 the Calvert City plant will be in full production. The temporary shortage should then be a thing of the past, and it is anticipated that by mid 1957 General Aniline will be able to take care of any normal demand for this versatile new raw material.

chemical teams who were studying the German chemical industry to determine which products of German chemical ingenuity could be transplanted into world markets.

RAW materials for the manufacture of PVP are formaldehyde and acetylene. Through a series of reactions ending up with a polymerization process, PVP is produced as a white, amorphous powder which is readily soluble in water as well as in a wide variety of organic solvents. While it was employed originally as a substitute for blood plasma, its use has been extended in the American market to a wide variety of cosmetic products such as hair lacquers, aerosol shaving creams, skin creams, dentrifrices, and nail polish remover and in detergents, inks, waxes, polishes, and paints. It is an efficient suspending agent, binder and stabilizer, and has the unique ability to reduce the irritating effect of other ingredients of cosmetic or drug formulations.

One disadvantage of PVP is that on damp days PVP films can become tacky. Some products contain a small amount of shellac to prevent this, while others employ the partial esters of a copolymer of methyl vinyl ether and maleic anhydride or an oil-soluble plasticizer such as dimethyl phthalate.

To prevent PVP films from becoming brittle and peeling off in dry weather, many products contain minor additions of lanolin, glycerine, diethylene glycol or other such softening agents. Some formulations also employ silicones to heighten hair luster and reduce moisture pickup on damp days.

A number of excellent articles have appeared in various publications over the past few years, telling about PVP, and discussing particularly its use in aerosol hair sprays. *Chemical & Engineering News* in their issue for January 30, 1956, quoted an estimate that at least 65 to 75% of all aerosol hair sprays now contain PVP. They noted that while PVP is more expensive than shellac, "the difference in cost may amount to no more than about 2 cents in the cost of manufacturing a 6-ounce aerosol that contains about 2% PVP and is sold across the counter for $1.50 or more." Incidentally the price of PVP has declined since it was first introduced. It was brought out initially at $6.00 a pound, during 1956 came down to $2.00 to $2.25 a pound, and with General Aniline's new Calvert City, Ky. plant now in production, its price has been dropped to $1.25 (in car-load lots) and $1.35 per pound (in 100-pound drums).

The following is typical of formulas for hair sprays based on PVP:

Ingredients	*Parts*
PVP	2-3
Essential Oils	0.2
Lanolin Ester	0.2
SDA Anhydrous Ethanol	17-19
Propellant (50/50 11 and 12)	77

The January 1957 issue of *D&O News*, published by Dodge & Olcott, Inc., New York, gives another common formula:

HAIR LACQUER — PVP TYPE

Concentrate %	*Formulation Ingredients*	*Charge %*
5.0	PVP	
0.5	Liquid Lanolin Fraction	40 Concentrate
0.5	Polyethylene Gly ol	60 Propellant
		100
	#400 Monolaurate	
1.0	Perfume	
93.0	Anhydrous Alcohol	
100.0		

MANUFACTURING PROCEDURE

1. Dissolve PVP in alcohol.
2. Add all other ingredients but propellant.
3. Heat slightly, allow to stand overnight, filter.
4. Add propellant.

In an article by Milton A. Lesser in the July, 1954 issue of *Drug and Cosmetic Industry*, the application of PVP in the formulation of hair lacquers was discussed as follows:

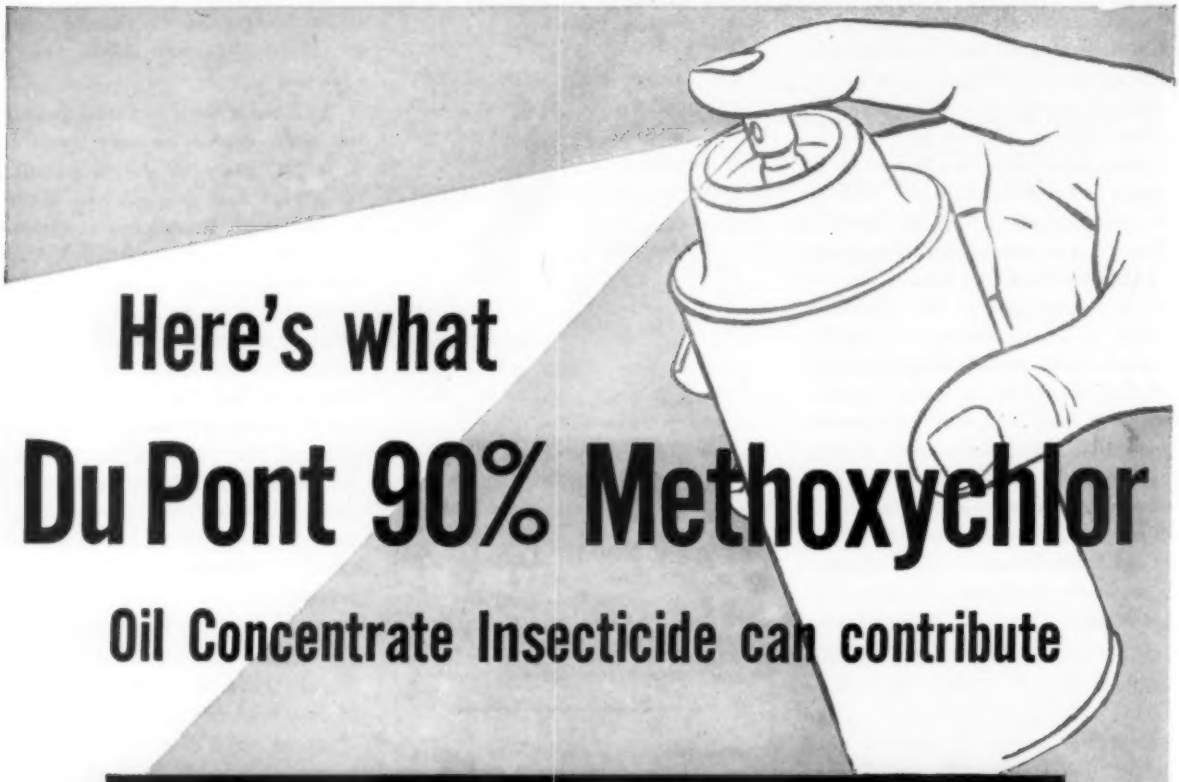
"The fact that PVP is substantive to human hair makes it an interesting material for use in hair care products. It has been found that when hair is placed in contact with a PVP solution, a certain amount of PVP enters the hair shaft. Subsequent rinsings of the hair do not remove all the PVP, which is apparently combined with elements of the lumen of the hair shaft. On microscopic examination it is seen that the hair takes on an improved appearance due to an increased clarity of the hair which accentuates the natural color. In addition, the hair appears to be smoother.

"Because of these and other properties, PVP appears to have found an important place in the formulation of aerosol hair lacquers. Its ability to form hard, flexible but nonflaking films and its solubility in alcohol are important considerations, while its solubility in water and its hygroscopicity make it unusually effective in such products. PVP is replacing shellac in hair lacquers because it can be completely removed by washing, and the hair can be reset for several days by merely using a wet comb or brush. In addition, it appears to swell the hair slightly; this effect contributing to better hair control."

Use of PVP in hair lacquers was also discussed in *Schimmel Briefs* for August, 1954, a monthly publication of Schimmel & Co., New York. It is observed that PVP is much more soluble than shellac in some aerosol propellants, so it may be used to prepare aerosol hair lacquer having a low alcohol content. It is possible to prepare 25% solutions of PVP in propellants 21, 22, or 113, without the use of alcohol. PVP is not substantially soluble, however, in propellants 11, 12 or 114.

DESPITE its relatively recent discovery and use, PVP has rapidly become an extremely important raw material to aerosol fillers. It has been used in so many products in the cosmetic and pharmaceutical fields that it is now well known to most people in the industry. And, because of its versatile history to date, it is not likely that anyone will be greatly surprised by the appearance of a series of new products based on PVP in aerosol containers. The expanded use of PVP in the last few years has been so dramatic as to take

Looking for improved middle and late knockdown for your budget aerosol insecticide?



Here's what

Du Pont 90% Methoxychlor

Oil Concentrate Insecticide can contribute

CSMA OFFICIAL AEROSOL TEST—LARGE GROUP

	Aerosol Test Knockdown			Aerosol Test Mortality
	5 min.	10 min.	15 min.	
Basic formula* containing 2% DDT	12	28	57	94
Same formula, but with 2% methoxychlor substituted for DDT	22	51	80	85
Official Test Aerosol	29	40	56	86

Note the great boost that methoxychlor gives to middle and late knockdown. It can do the same for your formula and at very low expense. Contact the district office nearest you.

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Atlanta 8, Georgia.....739 West Peachtree Street
Minneapolis 2, Minnesota.....1207 Foshay Tower
Cleveland 14, Ohio.....1321 National City Bank Bldg.
Wynnewood (Philadelphia), Pa.....308 E. Lancaster Avenue
Houston 25, Texas.....1100 East Holcombe Blvd.

*The basic formula is a widely sold, low-priced aerosol containing synergized allethrin, another KD agent, plus 2% DDT.

DU PONT
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BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

away from the surprise element for the new uses. PVP, when used in most of its present formulations, may constitute only one or two percent of the total contents of an aerosol formulation, but it can have a most important effect on the efficacy and applicability of that product. It has found ready acceptance in the following products:

Hand lotions
Shampoos
After shave lotion
Wave sets
Hair lacquers
Shaving lathers
Deodorants
Cream rinses
Toothpastes
Protective gloves
Lipstick
Hair tints
Mascara
Waterless hand cleaners
Pre-electric shave lotions
Skin creams
Men's hair groomers
Protective masks

PVP and its copolymers have many favorable attributes, one or more of the following properties being of prime importance in the products already mentioned:

- Physiologically compatible with tissues, skin and hair.
- Forms hard and tough films.
- Acts as protective colloid in emulsions and foam products.
- Excellent dispersing agent.
- Detoxifies a wide variety of poisons and irritants.
- Complexes with dyes.
- Substantive to hair.
- Adds desirable hygroscopicity to products.
- Binds and stabilizes many organic and inorganic compounds.
- Stable over broad pH and temperature range.
- Soluble in wide range of solvents, including propellants.
- Minimizes corrosion and valve problems.

This long list gives some idea of PVP's usefulness not only to aerosol fillers but to manufacturers and formulators of pharmaceuticals, cosmetics and related products for all types of packaging, PVP, like so many other synthesized materials, was developed with only a very limited market in mind, but rapidly found new uses in many directions. Sun-tan lotions and anti-perspirants are just the very latest two. AEROSOL AGE is certain, from the conversations with General Aniline and with aerosol formulators and fillers, that there will be many more interesting developments in the near future. Not only has PVP found uses in already existing markets but in several cases it has been the spur that has helped to create new markets or given new life to dormant ones.

As indicated earlier, PVP was synthesized more than 20 years ago by J. Walter Reppe, who was interested in the high pressure synthesis of new chemicals from acetylene. The discovery was made in the I. G. Farben laboratories in Germany.

The first use of PVP in the United States was in the pharmaceutical field, initially as an extender for blood plasma by the U. N. forces during the Korean War. Because PVP soon was being looked at with other products in mind, it wasn't long before it was combined with iodine to take away the irritating and stinging sensation associated with that germicide while still allowing the iodine to retain all its germ killing properties. Other pharmaceutical uses of PVP are as a drug vehicle and retardant, as a tablet binder, and as a detoxifier.

Soon after PVP proved its worth in pharmaceuticals, the development laboratories focused their attention on the next logical field: cosmetics. It was then that the material was put to use as a binder, a stabilizer and a film former in skin lotions, powder bases, hair tonics, wave sets, shampoos, shaving creams and aerosol hair sprays. It is also excellent for wave setting products.

One of the most valuable properties of PVP is its emollient quality, which has caused PVP to be widely employed as a suspending agent in lotions. It helps them make the skin feel smooth and fresh.

Copolymers have been developed which can be sprayed onto the hands in a thin film to form a protective bandage or glove (to protect the hand from dirt and contamination). An extension of this protective glove treatment is its indicated large scale use as a "cocooning" agent. As such, it may be used to replace such materials as "Cosmoline" in protecting equipment that must lie idle for long periods of time. It is much less messy than that familiar Army material.

But at the moment much attention is being focused on PVP copolymers in sun-tan lotions, which it is hoped may provide a whole new departure in that field.

These, then, are just a few of the possibilities for Polyvinylpyrollidone, a dramatic new chemical in an age of new chemicals. The manufacturers feel there is a tremendous future for PVP and its copolymers in a number of other cosmetic uses — many of them products that can be best marketed as aerosols.★★

•

Record Can Output Seen

Production of metal cans in 1957 will approach 42 billion units, according to William C. Stolk, president of the American Can Co., New York. The figure, he indicated, will substantially top last year's all-time record of some 40 billion containers. He attributed the continuing gains in can production to the general high level of economic activity, and to the fact that the metal containers are being used in greater and greater volume to pack a constantly increasing number of products.

•

SCC Hold First Meeting

The New York Chapter of the Society of Cosmetic Chemists, at its first meeting in 1957, had as guest speaker Dr. James Dutcher of the Squibb Institute of Therapeutic Research, who spoke on "Recent Chemical Studies of Antifungal and Other Antibiotics." The meeting was held Jan. 23 at the Brass Rail, New York City. Besides discussing recent studies in the field of antibiotics, Dr. Dutcher explored their potential use in dermatology and cosmetics.

AEROSOL

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A REPORT FROM EUROPE

developments in

NEW entrants into the aerosol field are faced early in their planning with the important decision as to whether to use the services of the numerous well-equipped filling specialists, the custom fillers, or perhaps to consider putting the necessary substantial investment into a filling line and doing their own packaging. While many U. S. firms have made effective use of the services of custom fillers, it is more common elsewhere around the world for those in the aerosol business to operate their own filling lines.

What are the considerations that, in some cases at least, make captive rather than custom filling more attractive? One factor is clearly the understandable desire of many pharmaceutical, perfume and cosmetic houses to exercise complete control over their products, all the way from raw material through to the finished package, protecting their precious labels which are the hall mark of their quality.

Other possible considerations include savings in freight costs, more versatile production and flexibility in operation, quicker delivery, ability to package small experimental and trial runs more economically, and to do research and development work on their own premises.

The trend toward captive filling is undoubtedly strongest with packagers of foam or water-based products where pressure filling is a "must." For the captive filling of most production runs of such products, the larger capital outlays involved in a cold filling line are hardly justified, and pressure filling does not demand the same technical experience and operating crew which cold filling requires.

When an aerosol marketer makes the big decision to do his own filling, his choice of what equipment to buy is clearly, then, not guided by the same considerations that would influence the custom filler, who can usually afford a much heavier investment, and can figure on amortizing his equipment much more rapidly.

In the overseas market where aerosols are just beginning to catch on, a cold filling line is hardly anywhere an economically feasible proposition. Production runs outside the U. S. are generally small by U. S. standards. Also flexibility of equipment is of prime importance, quick changes must often be made from one product to another, and in many cases production rates vary with the seasons. The costly and automatic timers on a high speed cold line do not fit in with these requirements.

The prime consideration is often that filling equipment must be inexpensive and simple to install, operate and maintain. It must be versatile for both product and container, and the less auxiliary equipment—such as refrigeration units, motors, pumps, valves and gauges—the better.

In the overseas markets, particularly, trained mechanics to repair and adjust delicate electromatic timers are not always at hand, and spare parts can take a long time in arriving. Labor costs play a comparatively minor role in the foreign markets, but it is not so much the cost as it is the trained teamwork of a cold line crew for the required high production rate which places the cold line at a disadvantage in these areas.

European countries of industrial significance already have an adequate number of contract loaders excellently equipped (according to the best of U.S. standards) with both cold and pressure lines, and most of them are enjoying good business and profitable runs. However, the predominant opinion among companies interested in the aerosol packaging of some of their products is in favor of their own equipment on their own premises. They rather prefer the U.S. trend towards integration instead of specialization, because under their own roofs they have complete control of product formulations — in most cases guarded family secrets— and absolute control of all cost factors. According to European experience, the "farming out" of essential operations may lead to trouble. Of course, in the new aerosol field there isn't the intense competition which prevails among the large numbers of contract loaders with their extensive services in the U.S. The reserve exhibited by European aerosol fillers to make use of a similarly organized

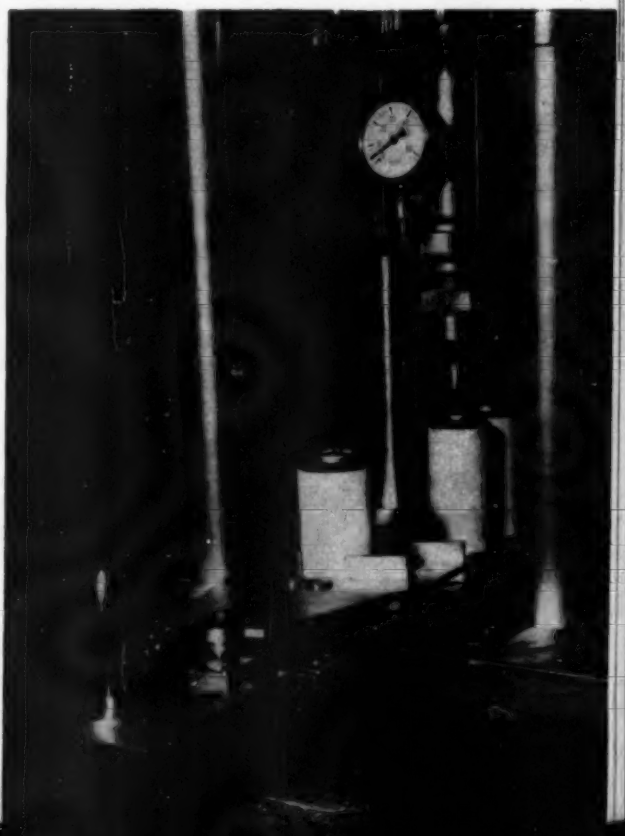
aerosol pressure filling

By Erwin O. Genzsch
Hamburg, Germany

contracting system has undoubtedly retarded the European aerosol development, but it is a fact to be reckoned with and must be taken into consideration. Also, it may have its merits for it could well lead to broader developments in the aerosol field and to new research covering new products.

In any event overseas aerosol development rests primarily on the right kind of filling equipment at the right prices and suitable for the peculiar loading and market demands. Simple and inexpensive machines are necessary for local filling of world advertised brands in toiletries, pharmaceuticals, and cosmetics on a license or concentrate basis. While most of the countries favor imports of industrial equipment, they place such obstacles on imports of consumer goods as high tariffs, quotas, and currency restrictions, in order to avoid a drain on their dollars, also substituting imports by other kinds of local products. With the establishment of local aerosol loaders, product variation could be secured through the import of concentrates requiring only dilution with alcohol or distilled water, instead of importing their weight in filled containers. Concentrate suppliers are even prepared to furnish complete labels, advertising material, etc., along with their products. Until now establishment of adequate filling stations in overseas markets has been held back due to the lack of the right kind of filling machines and at the right prices for the particular conditions. Most U.S. filling equipment is too large and expensive, while the available pressure machines have been considered too intricate in design, still requiring too much maintenance for the rugged load with inexperienced workers. (This, at least, has been the opinion of export traders or importers and no reflection is intended on the technical performance of this equipment under proper conditions.)

In a comparative evaluation of the equipment necessary for either a cold or pressure line it must be remembered that the cold line is more extensive, more complicated, and consequently more expensive. To begin with, it requires a refrigeration plant for both product and propellant and auxiliary pumps. There are certain technical difficulties in reducing the size of refrigerating units below prescribed limits, which, of course, affect the capacity of the machine. Considering the usual local starting demand in European and overseas countries, the capacity of cold filling machines is thus too large to justify the investment. Cold filling therefore does not seem to provide the answer. In addition, the gas loss in cold filling can scarcely be reduced to below 5%, and in some cases on the Continent is even billed by contract loaders at between 10 and 15%. In the outlying countries every single pound of gas must be imported and, with most products, is the most expensive part of the package. Water based products and those whose ingredients are sensitive to low temperature cannot in any event be filled by the cold process and for these, pressure equipment would be required additionally. In hot

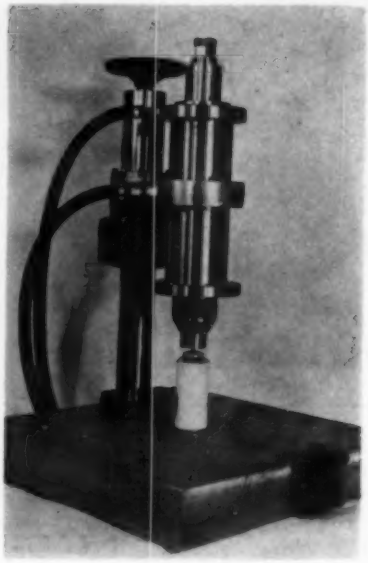


A detail photo of Druk-Pak's semi-automatic propellant charger, showing the slide-feed mechanism. Guides grasp the container and position it under the filling head when the handle is pushed forward. Compressed air controls are located under the slide and operate by slide movement. The filling head then descends and automatically centers the container.

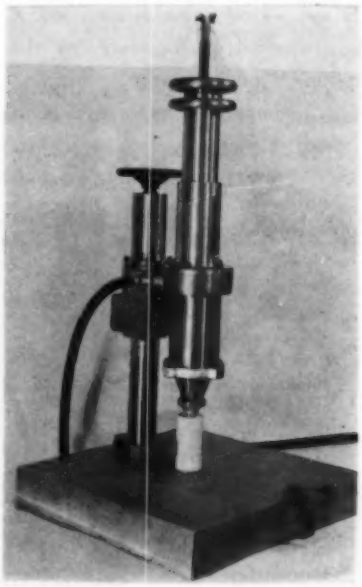
countries larger refrigeration units would be necessary to air-condition the work rooms to cut down gas losses. All of these accumulating cost factors could only be offset by a high production rate at near capacity figures and on a constant level the year round, a near impossible supposition for generally small starting operations.

Pressure filling, on the other hand, is not dependent on a constant near-capacity operation, and the stations may be built as large or small as desired, according to market demands. Small pressure filling machines can be hand operated and may thus consist of simple elements, like a little apparatus for trial runs and small-scale commercial production, which has recently been developed in Switzerland. The machine is similar in design to a laboratory filling apparatus but it has the valves and container table for production runs. A single burette of safety- (plexi-) glass has a capacity of 500 ccm. or about 700 grams of propellant, more than enough to charge an 18-ounce can of insecticide or over 40 six-ounce cans of shaving lather without recharging the burette. It is servo-operated by compressed air. After the burette has been propellant charged, a valve is turned which lets compressed air into the burette, exerting a constant pressure on the propellant level until the burette is emptied. The container is raised and held in place by a compressed air operated table. Filling capacity depends on the quantity of propellant charged, size of container and type of valve used, amounting to approximately 500 to 1000 containers per day. A complete filling line for small runs consisting of hand operated product-filler, valve clincher, propellant charger, warm water test-bath and several simple control devices accommodating both metal cans and glass bottles is within a price range permitting retailers and local distributors to fill their own products economically as a side-line (Druk-Pak Inc., Zurich).

A new German-made line of pressure filling equipment can be said to incorporate the latest in design and construction and has just been introduced on the international market.



The Druk-Pak product-filler delivers exact dosages of active product from five to 500 grams, and is equipped with a special filling nozzle for glass bottles. It is adjustable for containers of all heights up to 200 mm.



The valve clincher. In this model the valve is first pressed firmly against the can rim before the clinch is made. Simple adjustments regulate depth and width of the crimp. The machine accommodates all valves for cans with standard one-inch openings.

The standard semi-automatic models consisting of product filler, valve clincher, and propellant charger are constructed as single units, independently operated, but can readily be converted to a fully automatic line. This is done by aligning the machines and placing a continuous container transport system over the base of the three machines, and by synchronizing their compressed air controls without changing any constructional elements. Capacity may be expanded further by employing two propellant chargers, both of which can easily be served by one product filler and valve clincher (thus approximating the capacity of cold line installations without refrigeration units and the other additional auxiliary equipment). The machines accommodate both metal cans and glass bottles and fill all kinds of products, liquid and foam. They are easy to install and to operate, requiring practically no maintenance or exchange of stressed parts. Except for the air-compressor there are no motors or electrical connections at the stations. All moving parts are compressed air operated, assuring absolute safety and very simple replacement parts.

Among the interesting constructional solutions employed, the individual machines have a number of special features. The product filler delivers cylinder-metered dosages according to a scale reading on front of the machine. The setting is made by turning a readily accessible wheel at the top of the machine, whose turn controls the piston thrust in the charging cylinder, thus affording exact repeated dosages from 5 to 400 ccm. of active product. With all three machines the setting for container height is simply made by positioning the operating mechanism on the supporting column, so that the smallest glass bottles and metal cans up to 200 mm. are accommodated. A non-drip, non-splash filling nozzle and a separate nozzle for glass bottles with 10 mm. openings will further assure exact dosages. One compressed air cylinder with a hand control valve on the base front operates the machine, with all

(*Continued on Page* 63)

Write for Nine Fully-tested Formulas!

J-5

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Yes, Penick laboratories have created a versatile new Pyrethrins-plus-Sulfoxide concentrate that eliminates the need to buy and stock a number of different formulations.

Nine effective formulas based on Pyrexcel Aerosol Concentrate 40-5 . . . alone and in combination with DDT or Methoxychlor . . . have been developed by Penick and tested with outstanding results. They're ready for you to use now!

And every aerosol bomb you base on this new concentrate will pack the potent sales-making punch of Sulfoxide, the synergist used in so many best-selling aerosol formulations in 1956!

Formulas, summaries of test results and working samples of Pyrexcel Aerosol Concentrate 40-5 are available on request. Send the coupon today!

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AEROSOLS

"VALVE performance is a critical factor in the packaging and merchandising of pressurized containers," declared Frederick G. Lodes, Lodes Aerosol Consultants, Inc., New York, in the *Modern Packaging Encylopedia for* 1957. In his contribution under the title "Valves for Aerosols," Mr. Lodes pointed out that "selection of the valve is influenced by the product, the propellant, and its specific pressure, the type of spray desired and the method of filling, as well as economy."

"Although the demands in regard to valve performance are exacting," Mr. Lodes writes, "the cost of valves has not gone up, but has been reduced. This stems directly from improved equipment, methods and know-how which have greatly increased the efficiency of valve-manufacturing processes. There has been improvement in the styling of the valve and a wider choice of colors for plastic parts has been made practical. It is important to note, however, that the valve assembly is a working component of the aerosol. Attempts to create stylish designs that ignored this fact have complicated valve performance and have resulted in retailer and customer dissatisfaction."

Mr. Lodes, one of the pioneers in aerosol valve manufacture as a former partner in Precision Valve Corp., declared that "there is no universal valve—no valve that can be employed indiscriminately in dispensing aerosols or allied products without modification in construction, materials, and design."

Discussing some of the particular problems of valve design, he said that clogging may be overcome by proper design of the valve expansion chamber and size of the inner and outer orifices. "At times, changes in valve design are to no avail for the proper and intended function. Faults in the formulated concentrate or over-all formulation must then be attacked by the valve manufacturers together with the formulators, working in close cooperation with each other."

Corrosion, he declared, is best remedied by "a change in materials of valve construction. . . . Nylons are unaffected, to a large degree, by most of the chemicals used in aerosol formulations at the present time.

Pharmaceuticals Praised

"The pharmaceutical industry is taking a long and increasingly optimistic look at the push-button package that most of us have used to spray insecticides, paints, or perfume," declared Frank Zumbro, E. I. duPont de Nemours Co., Inc., Wilmington, Del., in an article entitled "Pharmaceuticals: New Frontier for Aerosols" in the *DuPont Magazine* for January. He said that the industry sees in aerosols a "new way of not only reducing the pain of treatment, but, more important, making the administration of the medicine easier, more efficient, and safer."

As additional advantages for pharmaceuticals (aside from ease of application and minimum irritation of treated areas) Mr. Zumbro said: "Even though the aerosol package may be higher priced than conventional packages, its efficiency often makes the aerosol preparation more economical. Since it's a gas-tight package, an aerosol protects the contents from contamination, preserves the potency of the active ingredients, and prevents evaporation during periods of non-use. Aerosols also give a uniform application, dry quickly, and offer a practical method of measuring dosage mechanically."

In this section we will regularly abstract the increasing number of articles on aerosol topics which are beginning to appear in various trade publications. While many of the articles are necessarily introductory in character, and often include considerable material already quite familiar to those in the aerosol business, it is felt that a useful purpose will be served by setting up a central clearing point through which it will be possible to keep track of what is being written on aerosol topics. It will be helpful if readers will call our attention to articles which we may miss. *The Editor.*

TWO further articles on aerosol packaging appeared in the November and December issues of *Parfumerie & Kosmetik*, both part of a monthly series by Mr. Friedrich H. Hans, Manager of the Frankfurt, Germany, office of Pegasus International Corp., New York.

A general review of the growth of the aerosol cosmetic industry in this country is given in the first of these two articles, together with questions — and answers — relating to problems now confronting the European cosmetic manufacturer who, impressed by the market for these products in the United States, has been forced to look towards the application of "push-button" convenience to some of his own products often not without some qualms. All of the essential components — coated and uncoated bottles, seamed and seamless black plate and aluminum containers, propellants, valves, caps, and loading facilities for the production of aerosols are now readily available in most of the European countries, and it appears to remain only for the intro-

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EK-2

duction of proper marketing and promotion techniques to insure sufficient acceptance of pressurized cosmetic products at the consumer level. Particular emphasis is put upon the relatively high prices currently prevailing on cosmetic aerosols in Europe, and the attention of the distributors and wholesalers is directed to the possibility of broadening the market by reducing the mark-up. Specifically cited is the fact that aerosol shaving creams are now readily available in the U.S. for as little as 59¢, a price apparently not yet attainable for this type of product as it is manufactured, distributed and sold at retail in Europe.

European customer complaints — "the valve dribbles instead of spraying," "the package empties too fast," "the bottle is not full," "the bottle, though not empty, will no longer spray," "the perfume odor is different than in non-pressurized forms" — are not entirely unfamiliar to American aerosol producers nor are the answers which are given. One question which appears still to be strictly foreign is the oft-posed query "why cannot the empty package be refilled?," and the answer thereto (fortunately one which the American industry never really had to cope with) is obviously one involving the not inconsiderable job of revamping the foreign consumer's natural thriftiness and converting him to the idea that in the long run it is cheaper to throw away the 'empties,' than to try and use them over.

In conclusion, it appears to the author that, while there will be no "aerosol revolution" in Europe, there nevertheless will develop a very stable market for many types of cosmetic aerosol products in the coming months and years.

The second article discusses at length some of the general technical aspects of producing cosmetic aerosol products. The various types of aerosol systems (two-phase, three-phrase, ultra low pressure) are discussed as well as the advantages and disadvantages to pressure and cold-filling. Although of considerable interest to the European readers of this journal, this last article contains nothing new or of interest to the American industry.

"THE industry can be proud of its record of safety in the use of the end product," writes H. R. Shepherd in the January issue of *American Perfumer and Aromatics*. "As far as could be ascertained there has not been a single fatality due to the physical character of the aerosol as such."

Mr. Shepherd, president of Aerosol Techniques, Inc., Bridgeport, admits that there has been "some" bodily injury and property damage, but concludes, on the whole, that the industry's safety record far surpasses the "early expectations of those who have watched the industry grow".

Entitled "Aerosols and Safety", the article goes on to praise the CSMA and "the high integrity and technical competence of the industry."

ALSO in the *American Perfumer*, David S. Tillotson, Isotron Sales Service, Pennsalt Manufacturing Co., in an article entitled "Metal Containers for Aerosols", declares that "there are few packages which have the same sales appeal as the neat, round, multicolor container."

"Natural ease of use and packaging beauty have put the aerosol across to the world faster than any other type of packaging." Mr. Tillotson then goes into a description and discussion of the merits of the common types of containers used in the industry today.

"The future of the aerosol industry," he observes, "judged by past performance, should be considered excellent. The estimated number of containers to be sold in 1956 is close to 300 million, approximately a 20% increase over 1955."

HARRY E. PETERSON, president of the CSMA and head of Peterson Filling & Packaging Co., Danville, Ill., in an article entitled "Aerosol Economics", (also in the January *American Perfumer*) declares that "Component and raw material suppliers, fillers, consultants active in the field, the pertinent government agencies, as well as the various industry associations, especially the CSMA, all stand ready to help with the various questions that confront the prospective aerosol packagers.

"It is possible to set up a pressure filling line for somewhere in the neighborhood of $10,000 to $15,000 . . . These operations are usually of economic value only where part time operation by full time employees is projected as a change off from other types of production operations. On a strict per unit cost and equipment amortization basis the economics will usually not compare favorably either with contract packaging or production from higher rate equipment."

Pointing to labor costs, filling equipment capacity, laboratory facilities, and other factors, Mr. Peterson argues strongly in favor of the contract filler. ★★

●

New Crown Testing Device

A new instrument for testing the hardness of non-metallic coatings on metal has been developed in the Research and Development Department of Crown Cork & Seal Co., Baltimore. Specially developed (by R. C. Albrecht, Crown senior engineer) to measure the hardness of organic coatings on bottle crowns and cans, and on lug and continuous threaded closures, the instrument was soon found to have considerably wider application, encompassing the entire field of metal coatings.

The instrument, which is the subject of a pending patent application is being manufactured under a licensing agreement with Crown by Gardner Laboratory, Inc., of Bethesda, Md., makers of precision scientific equipment used extensively in the paint and coatings industries. The device reportedly can test virtually all forms of coated metal, including flat stock.

Crown claims the new instrument is simpler to operate than conventional hardness testers. It is said to eliminate the possibility of the human failure factor that is common with most such instruments. Previously, such testers required frequent manual adjustment and bothersome "dressing-up" of parts. At the same time, it supplies laboratory-like precision within plant production standards.

New General Electric leak detector checks each can quickly, automatically, safely

Helps assure long shelf life, improves quality control

Continuous production line testing of pressurized cans is now possible with General Electric's new "fixed-head" leak detector. Designed for use by manufacturers of insecticides, hair lacquers, paints, plastic sprays, shave lathers, shampoos, etc., the new unit accurately leak-checks every can on the line. This 100% leak test helps protect product quality throughout its shelf life and complaints and returns caused by deterioration on dealer's shelves can be sizeably reduced.

Automatic rejection of faulty cans can be initiated by the new system. Manual testing of cans is eliminated and this new method is more sensitive and much faster than conventional "hot-water" methods.

Tolerance limits for quality control can be set and maintained through use of General Electric's new "leak-standard." Experience with your product will show the size leak which is permissible to maintain product quality for the desired period of time. The "leak-standard" makes possible quantitative measurement of the leak and proper calibration of the detector to predetermined limits for precise quality control.

For further information about how to apply this new leak detection system, call your nearest General Electric Apparatus Sales Office or write to Section 585-56, General Electric Company, Schenectady 5, New York.

ACCURATE LEAK DETECTION MEANS PROFITS

GENERAL ELECTRIC

Pressure Packaging Overseas

Dr. Tom C. Clark of Druk-Pak, Ltd., Zurich Sums up the 1956 aerosol picture in Europe. He reports that propellant prices have been lowered 10% by Hoechst, a leading producer

Dr. Clark will visit the United States sometime between the middle and the end of February. He will be in this country for three weeks, visiting Chicago, Cleveland, Pittsburgh, and the New York area.

WE are happy to observe the increasing interest of U. S. consultants, loaders, chemical companies and others, in European and other overseas aerosol markets. Their active participation with their broad background of experience should have a most salutary effect, compressing into months what would otherwise require years of experimental trial and error. But one factor must be remembered: The U. S. industry's rapid growth was primarily due to U. S. market conditions and market development techniques (advertising, radio, television, consumer buying power, chain-store retail outlets), not the sudden solution of any manufacturing or purely technical problems. European engineers and technicians are well posted on the practical and theoretical aspects of the aerosol package. Covering their own requirements, they now have efficient loading equipment, satisfactory valves, good containers in both metal and glass, and an increasing range of products. However, as we have observed before, the lag is in European merchandising methods.

Direct manufacturer retail selling without a middleman's intervention is practically unknown in Europe, even on sales to newly established chain stores and the larger retail outlets. The middleman's cut runs from 20 to 25% of the end price, a substantial item for a consumer product in a relatively low buying power market. Despite the manufacturer's consumer advertising in newspapers, magazines and bill-boards and consumer display exhibits, he persists in maintaining this middleman, despite the fact that the function he performs hardly justifies the cut he takes.

Nothing could better illustrate this than a recent conversation with a shaving lather manufacturer who commented on his low turnover despite extensive and good advertising. We observed that at $1.00 per six-ounce can against about 34 cents for his same product in a tube, the price might not be right. He blamed his supplier's prices but finally admitted a manufacturing cost of about 20 cents against a tube cost of about 8 cents. But the one he multiplies by 5 and the other by 4. This he blamed on the middleman whose cut is naturally a percentage. There is nothing wrong with the product and nothing wrong with the market (as some reasonably priced new products will soon demonstrate) and perhaps he, too, may soon discover his middleman is not so indispensable.

In this marketing field, U. S. consultants will be bucking a system with entrenched roots—not filling a gap. Surprisingly, the system is defended from practically all quarters and even publications not dependent on a middleman's advertising are reluctant to publish anything informative of their activities and actual contributions in this field. Also, surprisingly, the European manufacturer still believes U. S. lower consumer prices (despite *labor costs* 4 to 5 times higher) are due solely to volume production and not to substantial savings in marketing costs. Without examining the elements, the reaction is: "But U. S. conditions are different and they do not apply here." In Europe, the middleman has a throttle on the market which he will continue to exercise so long as the manufacturer refrains from direct selling. U. S. consultants will have a hard time getting around this problem.

Hoechst Lowers Propellant Prices

Farbwerke Hoechst, located at Frankfort - Hoechst, Germany, Europe's largest producer of fluorinated hydrocarbon propellants, has announced a 10% reduction in the prices of its "Frigen" products for deliveries to its German consumers, effective Dec. 1, 1956. The company has recently expanded its production facilities and plans further expansion during 1957, indicating its confidence in this developing market. This welcome reduction in the face of general price increases should give a boost

(*Continued on Page* 55)

AEROSOLS ARE BIG BUSINESS

1957 To Set New Sales Record For Pressurized Insecticides

NO RESEARCH staff in the industry is better equipped to help you secure your share of the growing aerosol market than Fairfield Chemical's trained technicians.

They helped to perfect the *first* aerosol package ever devised — the early High-Pressure bomb developed for the U. S. armed forces.

Today their research facilities and *specialized* knowledge in this field are second to none.

Safe, highly effective Pyrenone* concentrates are available for a wide range of non-toxic aerosols . . . roach and ant sprays . . . insect repellents . . . pet sprays and pet shampoos . . . plant sprays . . . and special types of pressurized insecticide sprays, either toxic or non-toxic.

Active ingredients of the Pyrenone concentrates are technical *piperonyl butoxide* and *pyrethrins.*

Why not bring down the high cost of distribution by adding one or more aerosol insecticides to your line?

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In Canada: Natural Products Corporation, Toronto and Montreal

Insecticide Aerosols Tested Against Resistant Flies

IN a paper given at the Annual Meeting of the Entomological Society of America in New York on December 30, H. O. Schroeder and Howard A. Jones of the Fairfield Chemical Division, Food Machinery and Chemical Corp., Baltimore, presented data showing the effect of typical household aerosols on house flies resistant to chlorinated hydrocarbon insecticides. The tests, made at the Entomological Laboratories of the Wisconsin Alumni Research Foundation, utilized numerous aerosol formulas against the Fowler strain of resistant flies and the standard CSMA laboratory strain, which has no known resistance. The Fowler strain is not only resistant to DDT, but to methoxychlor and certain other insecticides, as well as to aerosol formulas containing these chlorinated hydrocarbons.

The Official Test Aerosol (OTA) which contains 0.4% pyrethrins and 2.0% of DDT tested at the standard 3 grams per 1000 cu. ft. dosage rate killed 72% of the normal laboratory strain of flies, but when used against the resistant strain mortalities of only 6 to 21% were obtained. Numerous aerosols which gave acceptable performance against the laboratory strain gave similar low kills when used against the resistant strain when DDT and methoxychlor were the principal killing agents in the formula. Such formulas did not give good results even when the dosage was increased to as much as three times the required test dose.

Data were also presented to show that a variety of formulas containing only pyrethrum synergized with piperonyl butoxide which were effective against normal flies were highly effective against the resistant strain. No increase in the concentrations of pyrethrum and piperonyl butoxide or in the dosage used was required to give satisfactory control of the resistant flies. The killing power of such aerosols was not increased when DDT or methoxychlor was added to the formula. Aerosols which contained minimum amounts of knockdown agents gave poor control of the resistant flies.

The Fowler strain of flies used in these tests acquired its resistance to DDT and methoxychlor naturally as a result of conventional control measures over a period of years on an experimental farm in Illinois. Surveys conducted by various state and Federal agencies have shown that resistance in house flies is widespread and has become so general that nonresistant flies may no longer occur outside of testing laboratories. This condition should be recognized and taken into account when control of house flies is under consideration.

The authors conclude that good performance of an aerosol formula in the laboratory against normal flies does not insure equally good performance in the hands of the consumer who quite probably is attempting to control flies of varying degrees of resistance. Using heavier dosages does not insure a satisfactory kill. Manufacturers should review their formulas in the light of the resistance problem so that dissatisfaction with the performance of aerosol insecticides will not be reflected in decreased usage of this popular method of insect control.★

Consultant's Corner

By Robert A. Foresman

THE international scene as concerns aerosols is rapidly taking on the growth characteristics of the American industry. As a result, especially close contact is developing between the European industry and our own in America.

In view of this, I have made plans to spend a month or five weeks visiting various loaders, marketers and suppliers in Italy, Germany, Switzerland, France, Holland, England and perhaps Scandinavia.

Letters are going out to my many correspondents friends in Europe in an effort to arrange get-togethers with as many as I can. However, I would like to urge anyone with whom I am not corresponding and who would like to discuss aerosols as they are handled in the U. S., to drop me a line, care of *Aerosol Age* or directly to my Philadelphia address. Insofar as it will be possible, I want to talk to everyone concerned with aerosols in Europe.

While final plans have not been completed, my tentative schedule calls for me to arrive in Italy approximately April 1. I will spend a weekend and probably three more days in Rome, then move on to the Florence area for another week.

About the tenth of April I will be in Switzerland stopping for a day in Lucerne then to Zurich for two days —from there to Germany for three days—detailed locations are still not settled. From Germany to Paris for a week then a day or two in Holland and then to London until time to leave for home.

There are indications that the European industry is undergoing a very constructive type of development. Namely, that technical investigation can take its proper place in the scheme of the developing industry since the practical aspects of filling containers were originally imported intact from the U. S. A. This means that technological effort can be expended on real research in the initial stages of the industry without being distracted by the mundane aspects of what to do when the filling operation is not under control. The growing pains that we experienced from 1947 thru 1950 or 1951 should be completely nonexistent for the European effort at large.

In this connection it is my purpose to learn the details of some of this very excellent work as well as to discuss aerosols as a new and vital industry in the European economy.

NEWS of Pressure Packaging

Airosol Co. To Expand

The Airosol Co., Inc., Neodesha, Kansas, recently announced expansion of its plant facilities to increase production to 50,000 aerosols units per day. The plant at Neodesha will be doubled in size and production capacity with the completion of a 7,000 square foot concrete block and brick addition. The company's product line, which now includes room deodorants, insecticides, and paints, will be broadened to include perfumes, hair sprays, shaving creams, and miscellaneous household items.

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Aerosol Co. Changes Name

The Aerosol Process Co., Inc., Bridgeport, late last month became The Reed Research Corp. Organized in 1955 to provide research, product development, and consulting services to the aerosol industry, the company is moving to larger quarters on Mill Street in Huntington, Shelton, Conn., near Bridgeport. Dr. Winston H. Reed, president of the Reed Corp., reported that the company "expects to have greatly expanded shop and laboratory facilities and additional personnel, which will enable it to increase the scope of its services."

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VCA Elects Ackerman

VCA, Inc., Bridgeport, recently announced the election of Emory G. Ackerman to its board of directors. Senior participating partner of Stevenson, Jordan & Harrison, Inc., New York and a member of that firm since 1920, Mr. Ackerman is also chairman of the board of Union Spring & Manufacturing Co., and a director of Texas Instrument, Inc.

Mr. Ackerman's business experience has been primarily in consultation on business and industrial problems, and has included the building and construction of a number of plants in different lines of industry.

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Old Empire Names Forgash

Old Empire, Newark, N. J., aerosol fillers and producers of aerosol concentrates, last month named Joseph Forgash to the position of technical director.

•

Offer Ether Sulfate, Sipon ES

American Alcolac Corp., Baltimore, have developed sodium lauryl ether sulfate with properties very much like sodium lauryl sulfate, and showing considerable promise for use in aerosol shampoos. The compound, which is being marketed as Sipon ES, has good detergency, a low clouding point, can be used in hard water, and is not corrosive. Tests by Crown Cork and Seal indicate that a 20% solution held for three months at 100°F had no adverse effects on the container.

Southern Co. to Expand

Aerosol Corp. of the South, Memphis, recently received permission from the Shelby County Adjustment Board to relocate its manufacturing operation to a new site in nearby Arlington, Tenn. The firm will use three existing metal quonset buildings at Arlington, and will erect another 20 x 36-foot building.

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Talk's on Jet-Spray Bon Ami

Dr. Daniel H. Terry, vice-president of Bon Ami Co. discussed the development and marketing of "Jet-Spray Bon Ami" at the general session of the 31st annual meeting of the Association of American Soap & Glycerine Producers at the Waldorf-Astoria Hotel, New York, on Jan. 25.

•

To Represent Bridgeport Brass

The Bridgeport Brass Co., Bridgeport, Conn., recently appointed the Kuhns Brokerage Co., Kansas City, Mo., to represent its aerosol division.

New Freshener Introduced

A new aerosol home air freshener that is reported to actually destroy odors was introduced last month by S. C. Johnson & Son, Inc., Racine, Wisconsin, maker of Johnson's Wax. Called "Glade" and brought out in evergreen and blossom scents, the new product is based on discoveries made during the Korean War when various organic compounds were tested to eliminate "hospital" smells in planes ferrying wounded from field hospitals. These discoveries were used in the formulation of "Glade."

The product is packaged in a six-ounce Crown container with a "Precision" valve. It works to neutralize objectionable odors through a "harmless chemical reaction," and does not mask odors with a heavy perfume as do many other air fresheners.

Johnson's Wax first entered the aerosol market a year ago with "Raid" house and garden bug killer. Designed for indoor as well as outdoor use, "Raid" quickly built up high sales in the insecticide field. This year the "Raid" line is being expanded with the addition of "Raid" roach and ant killer aerosol. Other products in Johnson's "Raid" line include a mothproofer, an insect spray and a liquid roach and ant killer.

THERE'S NO SUBSTITUTE FOR

Aerosol

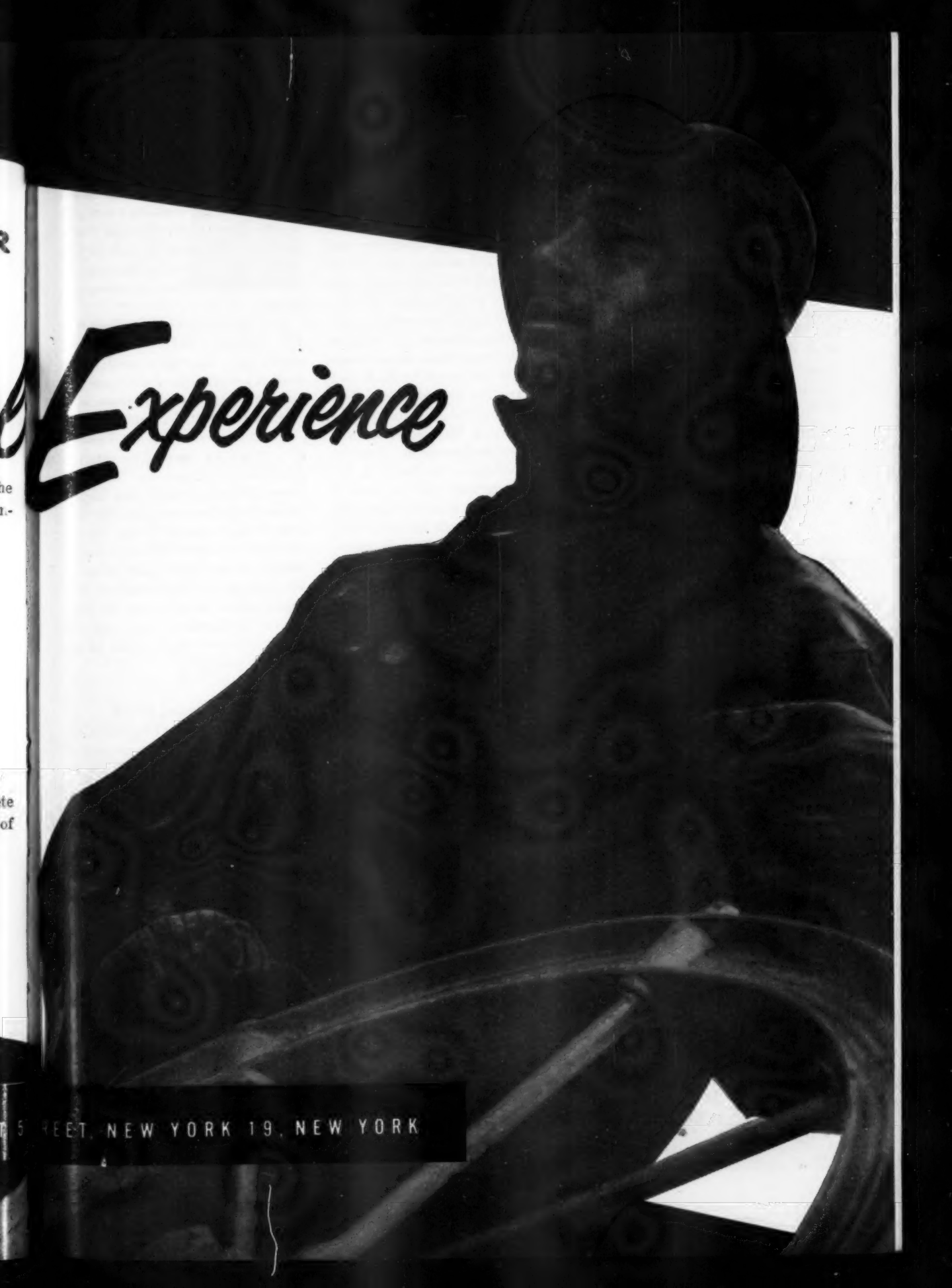
There are a few technical rough spots in adopting the new pressurized package. Here the technical know-how and experience of the aerosol research laboratory of van Ameringen-Haebler can guide you safely.

Customers of VAH enjoy the following advisory services:

- **FORMULATION TO ACHIEVE COMPATIBILITY**
- **EVALUATION OF NEW PRODUCTS**
- **TEST PACKAGING**
- **VALVE RECOMMENDATIONS**
- **FILLING PROCEDURES**
- **PRODUCTION TROUBLE SHOOTING**

Although primarily concerned with matters of fragrance, VAH established this complete aerosol research laboratory to assist its customers in every phase of this new field of packaging from product formulation to pilot runs for market testing.

van Ameringen-Haebler, Inc. 521 WEST


Experience
5 FEET, NEW YORK 19, NEW YORK

Bon Ami Ad Campaign

The Bon Ami Co., New York, is continuing in 1957 a strong advertising campaign for "Jet Bon Ami," its new aerosol product introduced nationally last September. Plans for the 1957 program cover only the first quarter of the year, and budgets for the second quarter have not been completed because of probable "expanding marketing objectives."

Spearheading the first phase of the campaign will be a double-page black-and-white spread in *The Saturday Evening Post*, supported by network radio and television and newspaper advertising. The spread is scheduled for the February 16th issue, with participations in five network television programs (which began Jan. 17), and advertising in ten network radio programs the following week.

Daytime and evening programs on all the networks will be used. The national promotion will be accompanied by a "saturation" radio and television campaign covering the New York metropolitan market throughout the first quarter, with participations in "Million Dollar Movie" and spot advertisements on five major radio stations.

•

'58 Packaging Show Plans

Plans for The Packaging Machinery & Materials Exposition of 1958 "include more than 60,000 square feet of exhibit space devoted exclusively to packaging machinery and materials, educational sessions on machinery and materials research and development and production line techniques, and overall emphasis on technical exhibits manned by technical personnel," according to an announcement made last month by K. B. Hollidge, executive vice president of the Arthur Colton Co., and chairman of The Packaging Machinery Manufacturers Institute Exposition Committee.

The Packaging Machinery & Materials Exposition will be held in Atlantic City's Convention Hall, March 25 through 28 of 1958, under the sponsorship of The Packaging Machinery Manufacturers Institute.

There will be more than 60,000 square feet of exhibit space in the exposition.

Second Isotron Unit In '57

A second new Isotron unit is under construction and will be completed later this year, reported William P. Drake, Pennsalt president, in an address to community leaders of Calvert City, Kentucky, following a recent inspection of the company's new propellant plant there. Pennsalt's first plant, an addition to the Calvert City works, was completed in December as part of a $55 million expansion program.

Pennsalt announced last month that its salesmen and manufacturers' agents have reported a good future market potential for the new propellant among contract and private label fillers throughout the country.

The main features of the Pennsalt process are the vapor phase catalytic converters which produce "Isotrons" from hydrofluoric acid and carbon tetrachloride feed materials. The new unit is instrumented so that the entire process is operated from a central control room. Major components of the plant are its distillation and drying systems designed to meet the high purity specifications and exacting moisture control requirements of the Pennsalt process.

•

R&H Names Blount, Grubb

Rohm & Haas Co., Philadelphia, recently announced the appointment of Arthur L. Blount as manager of its Philadelphia plant. He will occupy the position formerly held by C. E. Andrews, also a vice-president, who retired after having served as plant manager since 1941. At the same time it was announced that Paul D. Grubb had been named assistant plant manager and production manager. Before joining Rohm & Haas in 1940, Mr. Blount was with the Union Oil Co. of California.

•

O-I Opens New Office

The Owens-Illinois Glass Co., Toledo, recently opened a new office at San Jose, California to serve California's Santa Clara Valley. The branch, which will handle the company's line of glass containers and closures, will be managed by Edmund K. Baloun.

Foster-Forbes Introduces Uncoated Glass Container

A new line of uncoated glass aerosol containers for colognes, perfumes, and similar product types was announced last month by the Foster-Forbes Glass Co., Marion, Indiana. Three of the new containers are already being used to package three distinct cologne products by Carven and Mary Chess, both of New York. The 1½-ounce Carven "Ma Griffe" and the 3¾-ounce Mary Chess "Yram" packages (left and center) are private mold designs for the perfume companies. The third container (middle in upper photo) is a stock item with a distinct two-flat-panel shape to permit easy labeling.

Honored By Sport Magazine

James W. Bampton, president of Krylon, Inc., Philadelphia, was recently honored by *Sports Illustrated* as one of the 1956 Silver Anniversary football All-Americans. Mr. Bampton played his football at Hobart, graduating in 1931, and was one of 25 former athletes so honored by the national sport magazine.

Selections were made from among football lettermen of 25 years ago "who have most distinguished themselves in their chosen fields of life. . . . They are outstanding survivors, along with many another Americans whether athlete or not, of one of the most testing quarter centuries in U. S. history." The article, entitled "1956 Silver Anniversary All America," appeared in *Sports Illustrated* for Dec. 24, 1956.

The paragraph on Mr. Bampton read: "As a football player Jim Bampton had a long, richly saturated experience of defeat. During his years Hobart lost 27 in a row. The 'big game' for him was his last, which he helped Hobart win. So Bampton is a first-class example of a man who played football for the fun of the game, even in adversity. He would do it again for 'the training in teamwork and desire to win.'" The article went on to briefly outline his business career, describing his firm, "manufacturers of a versatile and growing line of aerosol sprays, ranging from paints to sun-tan oils."

Gard Industries Enters Custom Filling

ONE of the Midwest's first manufacturers of aerosol products, Gard Industries, Inc., of Wilmette, Ill., last month announced its entry into the custom filling field. The new operation, it is reported, will function as an independent division of the company's regular manufacturing operation.

According to Howard Klehm, Gard president, the new division will be self-contained and will utilize its own equipment and personnel. He says further that "the decision to add a contract filling operation is the outgrowth of the belief that aerosol marketers will naturally have confidence in the manner in which their products are handled, when they are aware that the same high standards of production that apply to our own brands will apply to theirs."

Gard Industries was founded in 1949 as an aerosol laboratory, and filled its first run of aerosol products the following year. The first production numbered only a few hundred units, and by 1956 the company was able to turn out and market nationally over two million units, comprising 125 different items.

The company boasts of a number of industry firsts. One of its early achievements was the successful filling of non-freezable products. This was shortly followed by the first high speed pressure filling operation, and as late as 1954, Gard states that it developed the first non-prescription aerosol topical drug — an antiseptic plastic bandage. Successful development of a paint that could be sprayed on any surface (including fresh flowers) and an instant-weld for styrofoam (a plastic used by the ton in the flower industry) were other Gard achievements.

In addition to contract packaging facilities, the new division will offer its customers a complete marketing service. Lee Dick, whose experience in the field of chemical specialty sales promotion dates back to 1935, will be in charge of this service.

"We feel," says Mr. Klehm, "that our new division will be unique in the aerosol industry, and will certainly constitute a service much needed by many marketers who are anxious to expand their product lines in new market areas. We intend being of service to our customers in all phases of aerosol, from formulation through packaging to sale at consumer level."

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Waterbury Retires at White

C. H. Waterbury, sales executive of the S. S. White Dental Manufacturing Co., Philadelphia, retired recently. With the company for 16 years, he also represented his firm in the Toilet Goods Association and the Philadelphia Drug Exchange.

New C.S.M.A. Members

The following have recently been elected as active members of the Chemical Specialties Manufacturers Association: Old Empire, Inc., Newark, N. J.; Products Manufacturing Co., Little Falls, N. J.; and Clarkson Laboratories, Phila. New associate members include: Lodes Aerosol Consultants, New York, and Peerless Tube Co., Bloomfield, N. J.

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Bon Ami Official Dies

William N. Huse, vice-president in charge of sales and marketing of the Bon Ami Co., New York, died late last month after an illness of seven months. He began his business career as brand manager of Procter & Gamble in Cincinnati and he was later advertising manager of the Alber Milling Co. He was named to the Bon Ami post on Jan. 1 of last year.

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Aerosols in '54 Census

The Advance Report of the 1954 *Census of Manufactures*—Miscellaneous Chemical Products—issued recently by the U. S. Dept. of Commerce, reported that more than $15.5 millions in aerosol insecticides were produced and shipped in 1954. The report listed a total production figure for aerosol insecticides of 19.6 million pounds, which exceeded all other product types.

The U. S. Dept. of Commerce census (possibly because of its advance nature) reported far smaller figures for aerosol insecticides than did the CSMA aerosol products survey

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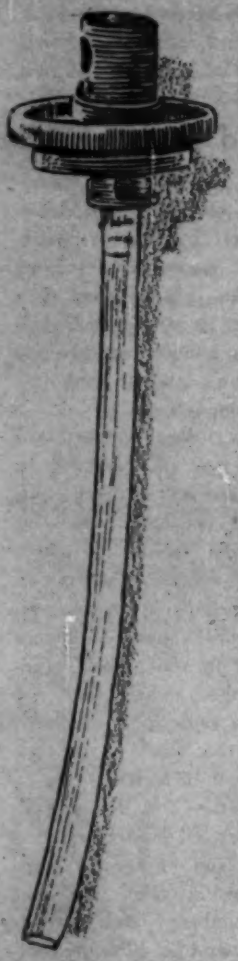
D&O Elects H. B. Rogers

Dodge & Olcott, Inc., New York, last month announced the appointment of Hatton B. Rogers as a vice-president. He joined D&O in the fall of 1954 as director of the Dry Solubles Division and prior to that served as director of technical service for the Huron Milling Co.

Mr. Rodgers' technical background includes a number of years with the Research Laboratories of the National Canners Association and the Army Subsistence Research Program (now the Food and Container Institute).

WRITE FOR
SPECIFICATION SHEETS
ON AEROSOL VALVES



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AEROSOL SALES DEPARTMENT

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NEW JERSEY

Propellant Costs Hinder Argentine Industry

The following is an exclusive report on the aerosol industry in Argentina by Antonio Arrigoni, Romeko S.R.L., Buenos Aires.

BEFORE considering the possible future of pressurized packages in the Argentine, the reader should be acquainted with the technical facilities that are available in this country for manufacture of aerosols on a marketable basis.

A general lack of technical specialists has made it necessary for the technical graduate to generalize in his studies, in order to deal competently with the diverse problems encountered in any large industry. It is on this scanty technical knowledge that the Argentine aerosol industry, has been based in its initial phase.

In the beginning it was thought that the firms to undertake aerosol loading would necessarily have to be firms large enough to absorb the possible loss of invested capital, without hindering financially the normal production of other manufactured products. Despite this misconception, the country's smaller firms became intensely interested in aerosols; and, though unable to put any large capital expenditures into the importation of machinery, valves, containers, etc., they have shown a remarkable ability to improvise. Amazing results have been obtained. Seamless containers, samples of which have been tested and approved, are now in production, development of valve dies is nearing completion, and several very successful valve prototypes have been turned out on laboratory lathes.

However, these developments do not necessarily mean that component parts will all be made in Argentina. This "home-made" approach is, however, imperative until the consumption of pressurized containers warrants the installation of costlier automatic filling machines; and we in the Argentine will have to lean on the experience of other countries to make our own industry a success.

The immediate marketing of aerosol products is impossible due to the present prohibitive costs of propellants 11 and 12, both of which are manufactured by four different firms mainly for refrigeration purposes. The quality of these propellants is extremely poor, since the contamination of dichlorodifluoromethane by trichloromonofluoromethane decreases the propellant action and at the same time causes a high corrosive action on containers and valves. Once these difficulties have been ironed out, there should be a prosperous future for aerosols in the Argentine.

The first products on the market will undoubtedly be cosmetic products (suntan lotions, hair lacquers, shaving creams, etc.). Unfortunately, the high production costs of insecticides will, for the time being, preclude any real assesment of what the potential sales for that product might be.

Ducilo will shortly complete construction of their new propellant plant, and "Freon" will then be distributed by Messrs. Kreglinger Ltda., Argentina representatives for E. I. du Pont de Nemours & Co.

The introduction of "Freon" propellants on the market about March of this year should be the real starting gun for the aerosol industry in Argentina.★

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Consumer Deodorant Survey

The Consumer and Market Research Division of the Owens-Illinois Glass Co., Toledo, Ohio, recently published "Consumer Survey on Deodorants #306," from findings of a survey conducted for them by the Homemakers' Guild of America. The survey is available to all cosmetic and toilet goods manufacturers.

•

Krylon Tops Own Quota

Krylon, Inc., Norristown, Pa., last year more than doubled its own retail outlet quota, James W. Bampton, company president reports. The company quota of 25,000 new outlets among supermarkets, hardware stores, paint and wallpaper stores, etc., was more than doubled, rising to a total of 60,000 outlets.

In an end-of-year statement, Mr. Bampton reported that Krylon has quadrupled production of all its products. He said he was extremely optimistic about 1957, and that Krylon will introduce a number of new products as a result of successful research accomplished in 1956.

•

Snell Buys Consultant Firm

Foster D. Snell, Inc., New York consulting chemists and chemical engineers, announced the purchase of Seil, Putt and Rusby, Inc., New York firm of chemical consultants. The announcement said that Dr. Stephen S. Voris, president of Seil, Putt and Rusby, will join the parent organization as director of the new subsidiary, and all other employees will also join Snell.

Seil, Putt and Rusby was founded in 1921 to specialize in chemical analysis and consultation on problems related to natural insecticides, drugs, essential oils, spices, flavors, alcholic beverages, proprietary products, and toilet preparations.

Dr. Harvey Seil, co-founder, was widely known throughout the insecticide industry for his development of the Seil method for chemical analysis of pyrethrins.

•

McGuire Chem. Incorporated

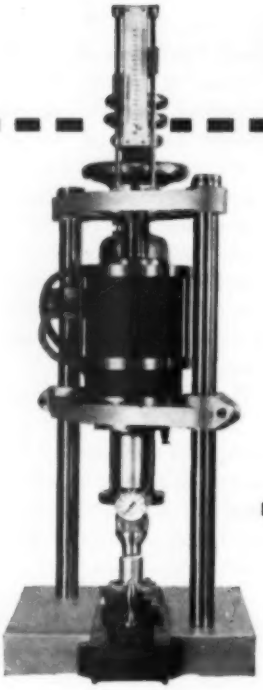
McGuire and Co., Oakland, Calif., a pioneer West Coast chemical firm specializing in industrial chemicals, packaging and distribution, has announced its recent incorporation as McGuire Chemical Co., according to William J. McGuire, president.

New officers of the firm include James C. Bradley, secretary-treasurer; Gordon N. Meacham, vice-president in charge of sales; and Earl E. McCluer, vice-president in charge of production. Fred C. Watchers is traffic manager.

The firm's main offices and plant are at 833 Forty-seventh Avenue, Oakland, California. A branch sales office and plant is maintained at 4979 East Fifty-second Place, Los Angeles. Jean P. Ravelle is Los Angeles district sales manager.

druk pak INC.

PRESENTING A NEW LINE OF SEMI-AUTOMATIC PRESSURE FILLING MACHINES



WM-DP PROPELLANT CHARGER

Maximum capacity 375 grams. Serves all containers up to 200 mm in height (cans and glass bottles). Compressed-air operated with controls under slide-feed mechanism. Filling head descends automatically over and centers valve under "O"-ring. New servo-operated back-pressure valve cuts gas loss to irreducible minimum. For large and small operations.

WM-DP PRODUCT FILLER

Maximum capacity 400 ccm. Exact cylinder-metered dosages. Compressed-air operated. All types of containers from smallest size up to 200 mm. Special filling nozzle eliminates splash and after-drip. Separate nozzle for glass bottles. Corrosion-resistant charging cylinder easily removable for cleaning. Simple to operate and adjust.

WM-DP VALVE CLINCHER

Serves all metal can valves for containers with standard one-inch opening and up to 200 mm in height. Clinching head descends over and firmly presses mounting-cup with spring-tension against can rim before crimp takes place. Easily adjustable for depth and spread of crimping groove. Compressed-air operated with simple controls.

These semi-automatic models are designed for ready conversion to a fully automatic line by aligning the machines (with one or two Propellant Chargers) and mounting a container transport system with synchronized controls across their bases.

LABORATORY EQUIPMENT — PRODUCTION FILLING MACHINES — VALVES — CONCENTRATES

Machines and Valves manufactured by Messrs. **JOHANN WALDHERR,** Machine Builders Mannheim, Germany

Sales by: **DRUK-PAK INC.,** 36, Merkurstrasse Zurich 7/32, Switzerland.

Representative Picture of Mexican Aerosol Industry Seen in Responses to Inquiry

AN item in our "Over the Transom" column for November has evoked a flood of replies, which give a representative picture of the aerosol industry in Mexico. The brief paragraph, advised: "We have had three inquiries within the past few weeks for a Mexican custom filler." It brought six replies (two confidential), including two from Mexico and two from the United States. Two Mexican companies, Envases Aerosol Division de Virmex, S.A. and Fiorege, S.A., both in Mexico City, immediately came forward and introduced themselves as aerosol fillers operating in Mexico, and an American subsidiary, Stanhome de Mexico S.A. de C.V. (Stanley Home Products) announced that it will entertain requests for custom packaging of aerosols in Mexico. Another American firm, the Tex-Spray Corp. Division of Allied Professional Associates, located in Houston, Texas, advised that it is currently exporting aerosols to Mexico.

V. H. Hiermeier, president of Envases Aerosol, wrote that his company is "the first and only true commercial aerosol loader in Mexico. Envases Aerosol (aerosol cans) does not have a product of its own, but does only commercial loading for such companies as Revlon S.A.; Dana de Mexico, S.A.; Industrias 1-2-3, S.A.; Laboratories Tintoral, S. de R.L.; and several others."

"We use the cold fill method and are now acquiring equipment for pressure filling. Our capacity is about 600 cans per hour and we have two days per week open for new clients. We are equipped to fill all cans and any type of bottle. For your further information, Continental cans are available here in six and 12-ounce sizes, and any glass aerosol bottle can be made here also. We are equipped to coat aerosol bottles."

Ing. Carlos de Navia-Osorio, sales manager of Fiorege, S.A., also replied quickly, and asked to be added to the list of custom fillers in Mexico. Stanley Home Products, Inc., Westfield, Mass., reported that its Mexican subsidiary's factory is now in limited operation, with a modern aerosol filling line.

R. F. Lally, assistant to the president of Stanley Home Products, wrote: "The capacity of this aerosol line in Mexico will be fully utilized through the winter and spring for the consumption of Stanhome de Mexico S.A. de C.V. It is entirely possible, however, that by June or July, 1957, this line will have unused capacity. Accordingly Stanhome de Mexico would be pleased to entertain requests for custom packaging of aerosols in Mexico. Advance notice by many months is desirable."

Melville M. May, vice-president of Tex-Spray, reported that, though his firm is not located in Mexico, its proximity to the Mexican market has enabled it to export a number of aerosol products to both Mexico and South America.

DuPont's recent "Package for Profit" lists still another Mexican custom filler, Distribuidora Minco S.A., Mexico 7, D.F.

Among the confidential replies was one from an aerosol filler in the Midwest, who wrote:

"As for our company, we are not interested due to the long distance and freight charges involved. However, we are interested in procuring all available information, as an expert aerosol technician who has worked on our machinery has expressed his interest in perhaps setting up an aerosol line in Mexico. In our opinion, he does not have sufficient capital to start off from scratch entirely on his own without any prospective customers.

"If this individual would be able to contact several of the people you mention, he might make arrangements wherein both he and the prospective customers might obtain high benefits. As this gentleman is still working for another company, we ask that you direct your correspondence to us and we in turn will relay the information to him."

— Convention Calendar—

American Pharmaceutical Manufacturers' Assn.
Central Section Meeting, *Edgewater Beach Hotel, Chicago, Ill.*...Feb. 11-13, 1957
Western Section Meeting, *Ambassador Hotel, Los Angeles, Calif.*..Feb. 18-19, 1957

National Canners Association, 50th Anniversary Convention, *Conrad Hilton Hotel, Chicago, Ill.*...Feb. 16-19, 1957

Canning Machinery and Supplies Association, annual exhibit, *Conrad Hilton Hotel, Chicago, Ill.*...Feb. 16-20, 1957

Chemical Market Research Association, *Sheraton Hotel, Philadelphia*..March 12-13, 1957

National Packaging Exposition, *International Amphitheatre, Chicago*..April 8-11, 1957

Toilet Goods Association, *Waldorf Astoria Hotel, New York, N. Y.*.....May 7-9, 1957

International Packaging Fair, *Amsterdam, Netherlands*.....May 14-21, 1957

Chemical Specialties Manufacturers Association,
Drake Hotel, Chicago, Ill......May 20-22, 1957

Chemical Specialties Manufacturers Association, General Luncheon,
Commodore Hotel, New York, N. Y......Sept. 16, 1957

Chemical Specialties Manufacturers Association, *Hollywood Beach Hotel, Hollywood, Fla.*.....Dec. 9-12, 1957

New Insecticide Introduced

Chemical Insecticide Corp., Brooklyn, last month announced the introduction of a new one-shot treatment for the control of weeds and soil borne insects and diseases. Called "Chem-Vape," it is sodium methyl dithiocarbamate which, through a decomposition process, produces a penetrating gas which is lethal to various soil borne insects, diseases, and weeds.

AEROSOL SALES UP 592% IN FIVE YEARS*

*Source: Chemical Specialties Manufacturers Association survey—1951 through 1955 (last year for which complete figures are available).

LET CONTINENTAL'S EXCLUSIVE LINE OF SIX DOME-TOP AEROSOLS HELP YOU KEEP PACE WITH THIS GROWING MARKET

Looking for the right package to help you ride the trend to bigger aerosol sales? Then take your pick from Continental's exclusive family of six dome-top aerosols—sized from a dainty 3 oz. right up to a whopping 16 oz.

Whatever your product—insecticide, hair spray, air freshener or other—it's sure to stand out in a dome-top lithographed by Continental's master craftsmen. And, because they let you fill all your container needs with one order, Continental dome-tops can trim your shipping and handling costs. Engineering and research services are available, plus contacts with valve suppliers and commercial fillers, if you wish.

Let Continental's line of six dome-top aerosols start selling for you. Along with a full range of sizes, Continental's expanded production facilities now offer rapid delivery from manufacturing points across the U. S. Call soon.

CONTINENTAL CAN COMPANY

Eastern Division: 100 E. 42nd St., New York 17
Central Division: 135 So. La Salle St., Chicago 3
Pacific Division: Russ Building, San Francisco 4

N. Y. Cosmetic Chemists Meet

George Kolar, president of the National Society of Cosmetic Chemists, was guest speaker at the recent meeting of the N. Y. Chapter of Cosmetic Chemists. Looking into the Future of the cosmetic industry, Mr. Kolar predicted enormous growth and improvements in the industry for the next 20 years.

The New York chapter installed its newly elected officers including Warren B. Dennis, chairman; Harry Isacoff, chairman elect; Vincent DeFeo, treasurer; and Miss Maria V. Wiener, secretary.

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Name Root to SCC Post

Morris J. Root, technical director of G. Barr and Co., Chicago, last month was named membership chairman of the Society of Cosmetic Chemists. Serving in the post for a two-year term, Mr. Root will be responsible for membership recruitment programs and for approval of membership applications.

Founded in 1945 with 12 members, the Society of Cosmetic Chemists now has 536 members throughout the U. S. and the Western Hemisphere, and in addition has an affiliated society in England. Its purpose is to further cosmetic chemistry through the exchange of information, research, and public information.

•

VCA Moves N. Y. Office

VCA, Inc., Bridgeport, last month announced that its New York office has been moved from 630 Fifth Avenue to 10 E. 49th Street, New York. Telephone number of the new office, which is under the direction of Sigmund Was, is PLaza 9-7950.

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Pyrethrum Shipments Up

Production of pyrethrum in the growing areas in Kenya Colony, the Belgian Congo, and contiguous territories will be "greatly increased," reports African Pyrethrum Development, Inc., New York, spokesman in the Western Hemisphere for the African growers. In 1956 eight million pounds of African pyrethrum or the equivalent in extracted pyrethrins were imported from Africa, 68% of which were sent to the United States.

It was reported that the Pyrethrum Board of Kenya has announced plans for a second plant sufficiently large to process, if desired, all the remaining anticipated production of Kenya, Tanganyika and Uganda. In the Belgian Congo SOCOPA (Societe Cooperative Produits de Agricole) has announced the letting of contracts for a second extraction plant in that territory.

Midwest APMA to Meet

Discussions of executive and management problems and panel sessions will highlight the meeting of the American Pharmaceutical Manufacturers' Association's Central Section, to be held Feb. 11-13 at Chicago's Edgewater Beach Hotel. Among topics of interest to the aerosol field will be "Glass Containers of Tomorrow" by J. W. Hackett, Owens-Illinois Glass Co.; and "Flexible Production and Packaging Layout" by Edward M. Wixted, Schering Corp.

NOW! ONE OF THE OLDEST AEROSOL COMPANIES BECOMES A

NEW SOURCE

FOR

CUSTOM FILLING

GARD—one of the oldest and most experienced manufacturers in the aerosol field—announces the formation of a new, separate division designed to meet the growing needs for "controlled quality" custom filling.

As the pioneer of high-speed pressure filling, producer of the first over-the-counter pharmaceutical aerosol and manufacturer of their own fine line of aerosol products, GARD brings to the field of custom filling the same technical, manufacturing and marketing experience . . . product research and development . . . and "controlled quality" techniques that have made GARD "the greatest name in aerosols." GARD offers a complete aerosol service, backed by experts who know and understand aerosols.

Whatever your product—solvent or water base, from cosmetic to paint, spray, foam or powder for home or industry—whether it's packaged in metal, glass or plastic under cold or pressure filling—whether you need 100 or 1 million units—GARD custom filling serves you best. Strict "controlled quality" measures assure superior quality, uniformity and stability in the production of outstanding aerosol products that proudly bear your label.

For full information regarding contract filling of your products, write today to the

CUSTOM FILLING DIVISION

GARD INDUSTRIES, INC.

"The Greatest Name in Aerosols"

731 GREEN BAY ROAD • WILMETTE, ILL.

GARD

Time to get ready with your

AEROSOL SUNTAN PREPARATIONS

The Schimmel aerosol laboratory has a wide range of perfumes which have been exhaustively tested for suitability in each type of preparation

Send us details as to your product and we will be glad to submit samples.

schimmel & co., inc.

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Who's Who in the Aerosol Industry

A. O. SAMUELS, president and founder of the Connecticut Chemical Research Corp., Bridgeport, Conn., dates his interest in the aerosol field from the years during World War II when the armed forces were developing the high-pressure insecticide bomb. He was one of the men to envision the possibilities for this innovation in the household, cosmetic, and toiletry product fields, and in 1947 he established the Connecticut Chemical Research Corp. with the primary function of research and development of formulations and processing to permit aerosol packaging in light-weight containers. He was the guiding hand behind ConnChem's design of much of the machinery and techniques used in this early phase of the development of low pressure aerosols.

Mr. Samuels guided the company from its conception to its present status as one of the leading firms in the industry, with subsidiaries in Canada and England. Since 1947 he has been instrumental in the development and design of a number of valves and containers, of internal can coatings to meet the requirements of differing formulations and adaptation of glass, aluminum, and plastic containers suitable for aerosol packaging. After Connecticut Chemical was sold in 1956 to the B. T. Babbitt Co., New York, he has remained to direct its activities.

Although Mr. Samuels is actively engaged in the administration of Connecticut Chemical, he still supervises a staff of about 18 technicians to enable him to continue research and development of aerosol formulations, containers, valves, processing equipment, and more efficient production methods. He is a long-time member of the CSMA's Aerosol Division, and is the author of several articles on aerosol topics.

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John Struthers, president of John Struthers and Co., Ltd., Montreal, an engineer by profession, opened the first aerosol loading plant in Montreal in 1953. Since that date he has built the company to a position of eminence in Canada, and last year the firm moved to a modern new plant in Mount Royal, a suburb of Montreal. John Struthers and Co. now offers complete facilities to both Canadian and American merchandisers for the manufacture of all types of cold and pressure-filled products, and Mr. Struthers predicts that the new plant will more than triple the company's original capacity.

Mr. Struthers was active in the Canadian machine tool and mill supply business for 17 years, later becoming director of the Industrial Products Division of Johnson & Johnson, Ltd., in Montreal. When the aerosol "bug" bit him, he formed his own company in 1953.

During the war, Mr. Struthers served with the Royal Canadian Navy and for a while (on a loan basis) with the Royal Navy as a fighter direction officer on aircraft carriers. He is a former director of the Naval Officers' Club of Montreal and is now the president of the Kiwanis Club of Royal Mount.

In addition to being a member of the Montreal Board of Trade, he holds membership in the CSMA and the Toilet Goods Manufacturers Association.

When not busy manufacturing and selling aerosols, he busies himself at the curling club or skiing in the Laurentians during the winter season; and during the summer he plays a "not too expert" game of golf.

Synergist Patent Defined

Sesoxane, the new synergist for pyrethrins recently announced by Shulton, Inc., Clifton, N. J., and described in an article in the January issue of AEROSOL AGE, has been the subject of a number of questions directed to this magazine, regarding both the patent and the material itself. In order to answer these queries, the following information is quoted from United States Patent Number 2,764,517, which was granted to Morton Beroza, Greenbelt, Md., and dedicated to the public. Dr. Beroza, discoverer of the synergist, is with the Entomology Research Branch, USDA, Beltsville, Md.

Under the terms of the patent, it is "A non-exclusive, royalty-free license in the invention herein described, for all governmental purposes, throughout the world, with the power to grant sublicenses for such purposes, and is hereby granted to the Government of the United States of America. The patent rights for the United States in any invention in the patent to be granted on this application are dedicated to the public.

"This invention relates to new compounds, namely, 3,4-methylenedioxyphenyl ethers, and to the processes for their preparation. The invention relates further to insecticidal compositions containing pyrethrins or pyrethrin-type compounds and these new 3,4-methylenedioxyphenyl ethers as synergists therefor."

•

Ferdinand Breth Dies

Dr. Ferdinand W. Breth, vice-president and technical director of L. Sonneborn Sons, Inc., New York, chemical manufacturers, died recently at the age of 70. Dr. Breth joined the firm shortly after World War I.

How TMC King Size Disposable and Refillable pressure CONTAINERS introduce a Challenging Competitive Weapon

Cylinder Sizes from 2" to 8" Diameter
Lengths Up to 36"
Working Pressures Up to 475 psi

"Make it easier to use and people will use more of it"! That is an industrial axiom that has been proved again and again over the years.

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CSMA Luncheon Planned

The Chemical Specialties Manufacturers Association has announced that a general luncheon for members will be held Sept. 16 at the Commodore Hotel, New York. The feature of the luncheon which will be held in connection with a New York meeting of the Board of Governors will be a special speaker, as yet unannounced.

•

Canners Assn. Convention

The 50th convention of the National Canners Association will be held at the Conrad Hilton Hotel, Chicago, Feb. 16-19, it was announced recently. Following the theme "Look to the Future," the convention this year will consist of four main general sessions, plus a number of special luncheon meetings at which technological subject matter will be presented.

The February convention will feature a Food Editor's Conference, and a highlight of the meeting will be the association's Golden Anniversary Banquet. Among the convention's special speakers will be Earl Butz, Assistant Secretary of Agriculture, and Fred Hatch, president of the National Agricultural Chemicals Association.

•

Drackett Elects Wise

The Drackett Co. of Cincinnati recently announced the election of R. D. Wise as vice president of the company's plastics division. He was elected a vice president of the Drackett Products Co. in 1954 and president of Calmar Distributors, Inc., a Drackett subsidiary, in 1955. He recently assumed responsibility for the plastics operations of the company.

•

Magnus Awarded New Rank

Joseph Baird Magnus, executive vice-president of Magnus, Mabee & Reynard, Inc., New York, was recently appointed to the position of vice commandant vice president of the Veteran Corps of Artillery, State of New York, constituting the Military Society of the War of 1812, with the rank of lieutenant colonel. He has been active in the corps, which is the oldest military command in the state of New York, since 1946.

Aerosols Overseas

(*From Page* 38)

to German companies planning their own or contract loading. Having taken the lead in the most expensive part of the package, Hoechst naturally looks for comparable reductions from other suppliers. These should not be long in coming. Net result: lower end prices and greater volume. Hoechst has also recently installed a new laboratory devoted exclusively to aerosols, under the leadership of Director Lessenich. It is the largest and most complete in Europe, and the company is prepared to give advice on propellants and propellant mixtures, thus offering the first such service on the Continent. Hoechst is justly proud of "Frigen's" exceedingly low H_2O factor, which most other manufacturers have not been able to equal. This is of special significance in connection with any aerosol products where corrosion may be a problem.

New Pharmaceutical Products

Three new aerosol pharmaceutical products have recently appeared on the German market called "Nobecutan," "Nobekzem" and "Nobespor." They are put out by Bastian-Werk, Munich-Pasing, Germany. The patented formulae for each of the product are given as follows:

Nebecutan:

Metaacrylsäureester dissolved in Ethylene Acetate
Tetramethylthiuramdisulfid 0.6%
Propellant

This transparent bandage is recommended for both pre-operative and post-operative application, burn wounds, and abrasions. It is non-water soluble but peels off easily after a few days. If it is necessary to remove it before that time, acetone can be used.

Nobekzem:

Metaacrylsäureester
Tetramethylthiuramdisulfid 0.6%
Pure Steinkohlenteer 5%
Albapyrol (synthetic tar product) 15%
Propellant

Nobepsor:

Metaacrylsäureester
Tetramethylthiuramdisulfid 0.6%
Cignolin (E. M. "Bayer") 0.5%
Pure Steinkohlenteer 5%
Propellant

These two types of spray-bandage are recommended for skin infections, eczema, neuro-dermatitis and mycosen. The resilient plastic film lasts for several days and is soap and water resistant, protecting clothing, bed linen and the injured area without dressing changes.

These three products have been tested successfully in hundreds of cases by practitioners, clinics and hospitals in many European countries and the results acclaimed. The bandage-sprays are porous enough to allow the skin to breathe and perspire without discomfort and their disinfectant properties have the desired corrective effect. So far as we are aware, they are the first true pharmaceutical aerosols to appear on the Continent.

Europe's 1956 Aerosol Production Up 30 Per Cent Over 1955

Last year, at this time, we got out our crystal ball and made our best estimate of Europe's 1955 aerosol production which, with a later correction, came to around 22 million containers. Without any confirmed figures, and with only opinions to go on, we admit our estimate is not much more than a good guess, and no better than anyone else's. But we are in touch with many fillers, valve, container and propellant manufacturers and try to follow the market closely. The figures in parenthesis are our maximum estimates for 1955.

This year, we have added two new countries: Norway and Finland. The latter now has five fillers and a large

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221 NORTH LA SALLE STREET, CHICAGO 1, ILL.

per capita consumption for such a small country. Deducting their figures from this year's maximum estimates gives an over-all increase of 30%. In our figures, Italy still leads, with the U.K. next and Germany third. In 1957 we look for both Belgium and Switzerland to go over the one million mark and for a very substantial increase in France. In fact, 1957 is everywhere predicted as the first real aerosol year for Europe.

While we cannot give any breakdown by product groups, we do know that insecticides still account for about 75% of total production. The biggest increases this year were in air-fresheners and glass bottles (perfumes and eau de colognes), and the most popular new product was "Spray Tan" which went over big despite a cold summer. Foam products still lag, and the leading shaving lathers are all mostly U. S. products now just beginning to be filled in Europe.★

1956 PRODUCTION — FILLED CONTAINERS — ALL PRODUCTS

Austria	75,000 to	80,000	(60,000)
Belgium	750,000 to	800,000	(600,000)
Denmark	250,000 to	300,000	(250,000)
England	7,000,000 to	7,500,000	(6,000,000)
Finland	250,000 to	300,000	(.....)
France	3,000,000 to	3,500,000	(3,000,000)
Germany	5,500,000 to	6,000,000	(5,000,000)
Holland	350,000 to	400,000	(250,000)
Italy	7,500,000 to	8,000,000	(6,000,000)
Norway	60,000 to	75,000	(.....)
Portugal	60,000 to	75,000	(60,000)
Sweden	300,000 to	350,000	(250,000)
Switzerland	700,000 to	750,000	(600,000)
	25,795,000 to	28,130,000	22,070,000

Pumps for Propellants

(*From Page* 17)

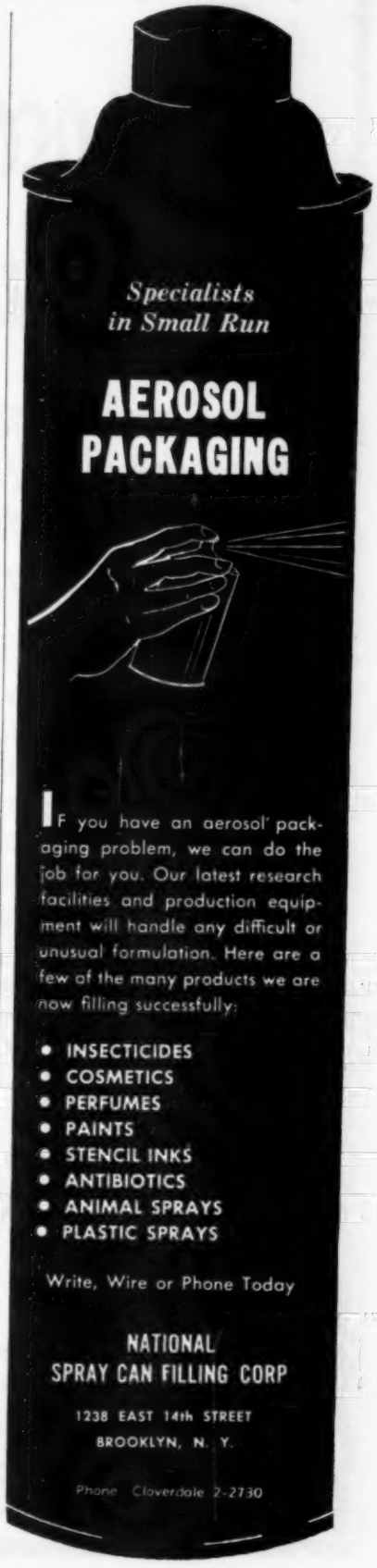
each is test sprayed. Finally, covers are applied over the spray heads.

As a vehicle for dispensing the insecticide or other packaged products, fluorinated hydrocarbons expand so quickly and to such great volume that they discharge with a relatively tremendous force when liberated to atmosphere from the container. Particles of the product carried out with the propellant are atomized into such small dimensions that the nature of the composition emitted resembles gas rather than vapor. This proves an advantage when the product is needed, for instance, in all parts of a room. However, when wax, soap or the like is needed in a limited area, extremely high pressure proves a detriment.

Certain products are dispensed more efficiently at lower pressure. To achieve a desired reduction, methylene chloride . . . a propellant that has a higher boiling point . . . is measured into the fluorinated hydrocarbons prior to the filling operation. Both propellants are refrigerated as a mix, and filling takes place as previously described.

When packaging calls for reduced pressure in the containers, deep-well jet pumps raise the methylene chloride from storage tanks 12 feet below floor level. Discharge of the jet pumps supplies the suction inlets of the turbine pumps that transfer the methylene chloride at 90-pound pressure through lines to the mixing panel.

Both jet and turbine-type pump installations are the dual type to provide standby units and thus guarantee constant flow. For the same reason, other turbine pump installations are dual, with one pump on standby. Sight glasses in all flow lines permit viewing their excellent performance. There has been no downtime, no difficulty, nor maintenance expense with our turbine-type pumps.★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New Solvay Booklet

A comprehensive new book containing detailed information on its entire line of chemicals has been announced by the Solvay Process Division, Allied Chemical & Dye Corp., New York.

This "Products Book" includes data on the uses, markets, physical and chemical properties, packaging and handling and storage of the entire line of Solvay Chemicals, including methyl chloride for use in aerosols. Also included is a listing which groups the products by consuming industries or manufacturing processes. The book is illustrated with photos of buildings and manufacturing operations at the various Solvay plants.

The publication is available from Department PB, The Solvay Process Division, Allied Chemical & Dye Corp., 61 Broadway, New York 6, New York.

•

New Pir-O-Sol Folder

Pir-O-Sol, S.A., Frauenfeld, Switzerland, recently issued a new illustrated folder describing its production line in pictures. The firm fills its own line of air deodorant, shampoo, brilliantine, hair lacquer, suntan lotion, and a number of perfume and cologne products.

•

Crown Enlarges S. W. Unit

Enlarged, modern warehouse space and broadened sales service were made available to Texas and Oklahoma customers of Crown Cork & Seal Co., Inc., Philadelphia. The company's Dallas sales office and Dallas warehousing operation were moved to a new building with 30,000 square feet of floor space at 123 Oaklawn Ave., in the Trinity Industrial district. The new unit will also include the Houston warehouse facility, which was closed in November.

The district sales office will be headed by W. I. Lang, district sales manager. Facilities include two dock openings for freight cars on a new railroad spur alongside the building, a covered truck well with a dock leveler which adjusts to different truck heights, and a platform to accomodate pick-up trucks.

New Aerosol Patents

The data listed below is only a brief review of recent patents pertinent to the readers and subscribers of this publication.

Complete copies of these patents may be obtained by writing to the publisher of this magazine, Aerosol Publications, Box 31, Caldwell, N. J., and remitting 50c for each copy desired. For orders received outside of the United States the cost will be $1.00 per copy.

2,772,922. Spraying Device. Patent issued Dec. 4, 1956 to Lloyd Q. Boyd, Highland, Ind. and Griffin J. Baker, Lansing, Ill., assignors to Standard Oil Co., Chicago, Ill., a corporation of Indiana. A hand spraying device for spraying liquid by means of a liquefied propellant, which device comprises a vertical, closed container having top and bottom closures, a substantially horizontal partition for sealing the interior of the container into a relatively small lower chamber for liquefied propellant and a relatively large upper chamber for liquid to be sprayed, a capillary tube having an internal diameter of at least about 0.02 inch but less than 0.25 inch extending from a point adjacent the bottom of the lower chamber through said partition to a point adjacent the top of the upper chamber, a spray nozzle positioned above the top closure and connected to a conduit which extends through the top closure to a point in the upper chamber adjacent the partition and a valve mechanism interposed between said spray nozzle and the lower end of said conduit for initiating, stopping and controlling discharge of spray liquid from the nozzle, said capillary tube substantially preventing intermingling of liquefied propellant with liquid to be sprayed whereby a much smaller amount of liquefied propellant is required when liquid to be sprayed and liquefied propellant are admixed.

2,773,722. Aerosol Dispenser. Patent issued Dec. 11, 1956 to Robert H. Abplanalp, Bronx, N. Y., assignor, by direct and mesne assignments, of one half to John J. Baessler, Yonkers, N. Y. An aerosol dispenser comprising: a container closure cup having an opening in its base, an upstanding tubular outlet provided with an annular channel embracing the margin of said opening to permanently mount the outlet rigidly on the cup, a disruptable seal closing the passage through the tubular outlet intermediate the ends of the latter, an external bead on the tubular outlet near the free end thereof, and a push button permanently mounted on said outlet and having a skirt closely embracing the outlet below the bead and undercut to house the bead and permit axial movement of the push button relative to the tubular outlet, said push button being provided with a plunger extending into the passage of the outlet and adapted to disrupt the seal therein when the push button is pressed to permit the passage of liquid from an associated container through a discharge duct formed in the push button.

2,773,855. Compositions for Decorative Purposes. Patent issued Dec. 11, 1956 to Jerome Hochberg, Newburgh, and Silvio A. Pellerano, Brooklyn, N. Y., assignors to Allied Chemical & Dye Corp., New York, N. Y., a corporation of New York. A liquid composition containing an active component adapted to be dispersed in aerosol form and a propellant agent; said active component constituting from about 5% to about 25% by weight of said composition and comprising a normal butyl-isobutyl methacrylate copolymer in amount at least 2% by weight of said composition, and a paratertiary butyl phenol-formaldehyde oil soluble thermosetting resin about 50% soluble at about room temperature in a liquid mixture containing by weight 76% CH_3CClF_2—16% CCl_2F_2—8% CCl_3F, said resin being present in amount at least 3% by weight of said composition; said active component being incorporated in said propellant agent, which is a normally gaseous chlorofluorocarbon containing not more than two carbon atoms, held under sufficient pressure to maintain the same in the liquid phase.

2,774,628. Apparatus for Dispensing Under Pressure. Patent issued Dec. 18, 1956 to Kathleen B. Engstrum, Arlington, Va. For use with an atomizing nozzle formed to discharge fluent mixtures under pressure from a container loaded with a liquefied gaseous medium, a syphon means inside of the container comprising a chamber, a foraminous barrier across said chamber, said chamber having openings on each side of said barrier, and discharge tubing coupled in said openings and to said atomizing nozzle, said barrier serving to separate any flocculated material from deflocculated material in said fluent mixture discharging through said syphon means, thereby preventing clogging of said atomizing nozzle, said chamber below said barrier having an internal volume greater than the internal volume of said tubing below said barrier, whereby an flocculated material in said chamber below said barrier is deflocculated by pressure into a fine dispersed state for efficient atomization by said nozzle.

2,774,680. Process for Making Aerosol Filters. Patent issued Dec. 18, 1956 to Edward J. Hackney, Charles D. Faucette, and Frederick R. Darkis, Durham, N. C. The process of making an aerosol filter which includes moving a flat band consisting of generally parallel filaments of textile material, all of said filaments bearing a similar electrical charge tending to separate the filaments and a majority thereof being within the field of at least a neighboring filament, into and through an atmospheric suspension of rod-like fibers of diameter not exceeding about 40 microns or the diameter of the filaments whichever is less, and gathering said filaments into a compact bundle in contiguous relation with gas flow passage spaces therebetween in longitudinal relation to said filaments

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and with said fibers extending across said passage spaces in spaced relation along said spaces.

2,774,518. MOLDABLE CONE BELLOWS (for aerosol container). Patent issued Dec. 18, 1956 to Norman Greene, New York, N. Y. A vertically compressible bellows comprising a single body of material shaped to form a series of concentric steps converging upwardly, each step having a generally upright wall and a generally horizontal wall, said bellows having radial grooves ascending with the steps, and said grooves being deeper than the individual steps, said grooves narrowing to accommodate the reduction in peripheral length of the steps when the bellows is compressed, the lower end of each of said grooves terminating in an upright wall to yield outwardly when the bellows is compressed.

2,775,483. AEROSOL BOMB FILLING AND DISPENSING VALVE. Patent issued Dec. 25, 1956 to Richard E. Treharne, Jr., Lindenhurst, and Adolph J. Wegmann, Glen Cove, N. Y., assignors to Scovill Manufacturing Co., Waterbury, Conn., a corporation of Connecticut. In an aerosol bomb consisting of a container having a valve assembly mounted in one end thereof and a cap closure for said valve assembly, a valve assembly comprising a casing formed of two tubular parts each having an axial bore therethrough and a peripheral flange with the flanges disposed and held in abutting facial fluidtight contact and with the bores in axial alignment, one of said tubular parts extending outwardly of the container and being formed of elastomeric deformable material, a check valve within said casing having a valve stem extending through the elastomeric tubular part, a cap member formed of elastomeric deformable material telescopically mounted on the elastomeric tubular part adapted to engage the valve stem to unseat the check valve, a discharge opening in the valve cap and cooperating parts on the valve cap and the elastomeric tubular part providing a fluidtight seal between said cap and tubular part as the cap is telescopically moved relatively to said tubular part and for limiting the telescopic movement of cap.

Trade Mark Applications

Applications for registration of the following trademarks were published in recent issues of the *Official Gazette* of the U. S. Patent Office. Notice of opposition to registration of any trademark must be filed within 30 days of publication of the application in the *Gazette*, and must be accompanied by a fee of $25.

PINE KING, in large capitals, for aerosol insecticide, aerosol deodorant. Application filed Nov. 12, 1954 by Connecticut Chemical Research Corp., Bridgeport. Claims first use June 1948.

■

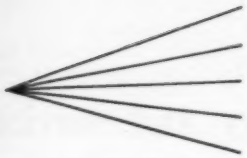
New Sprayon Booklet

"Aerosols Unlimited," an eight-page descriptive booklet, was recently issued by Sprayon Products, Inc., Cleveland. The various Sprayon production, development, and research facilities are described and illustrated, and there is a diagramatic drawing of the entire custom filling operation. The booklet also contains a functional diagram of the Danvern aerosol valve, which was developed by the company to minimize the clogging problem encountered with paints and other products.

■

Canco in Foreign Expansion

The American Can Co. last month reported it has undertaken a "broad program of overseas manufacturing operations and expansion of its export sales of containers made by the company in the U. S." The company announced organization of a Brazilian subsidiary plus the signing of technical assistance agreements with can companies in Denmark, Germany, France, England, Mexico, New Zealand, Australia, and Japan.



CLASSIFIED ADVERTISING

Rates for classified advertisements are ten cents per word, $2.00 minimum, except those of individuals seeking employment which *Aerosol Age* will run without charge. Check must accompany all classified advertisements. Address all replies to Classified Advertisements with Box Number, care of *Aerosol Age*, Box 31, Caldwell, N. J. Closing date: tenth of month preceding month of issue.

Help Wanted:

Production Supt. Aerosols

Leading Manufacturer of chemically processed consumer products about to start up Aerosol loading operations utilizing the most modern equipment offers attractive opportunity to thoroughly qualified man to head up this newest packaging activity at Northern N. J. plant location.

Please supply full information concerning loading methods & equipment with which technically familiar & kinds of products processed together with a complete record of employment & salary requirements. Box 123.

FOR SALE: One Alpha gasser and shaker, one Federal filler. Super-Whip Sales Co., 2238 S. Ridgeway Avenue, Chicago, Ill.

Aerosol City

(*From Page* 20)

tanks, etc.; the Whitney Co. has been sales representatives and engineers for conveying equipment, packaging machinery, stainless steel tanks and pumps etc.; and the Robins Co. are licensed professional design engineers and have specialized in automation in the aerosol packaging industry.

Key figure in the new company is Lee J. Wallace, who as vice-president in charge of engineering of the J. P. Salmini Co. was responsible for the installation of equipment at most of the aerosol plants in Bridgeport, Boyle-Midway in Chicago and Cranford, N. J., Colgate-Palmolive in Jeffersonville, Ind., G. Barr & Co. in Los Angeles, Calif., and many others. Chief engineer of the Wallace Co. is Albert E. Osman, project engineer at Bridgeport Brass through the complete development of the aerosol department.

This then is Bridgeport, the "Aerosol City." From the first tentative "side-line" experiments at Bridgeport Brass it has grown to a city almost bursting at the seams with aerosol activity. It is growing with the times, just as the industry is.★★

Pressure Filling

(*From Page* 32)

movements except placing the containers on the centering block being executed automatically.

The valve clincher requires only two adjustments, one for can height and the other for the positioning of the collet crimping tool in the depression of the mounting cup. The spread of the crimping prongs is also adjustable. After placing the container with loosely set valve in the positioning block on the base, a movement of the control valve causes the crimping head to descend 25 mm. over the container, automatically centering it and firmly pressing the mounting cup against the can rim, permitting perfect position and tight fit.

The propellant charger (patents pending) has only three cylinders and requires no pumps or extra equipment to maintain propellant liquefaction. Dosages from five to 375 grams of propellant are cylinder metered according to scale-reading, the maximum dosage being sufficient for an 18-ounce can. The machine is said to hold very close tolerances — less than 1% on a charge of 100 grams — and the construction eliminates all gassification within the system. The container valve stem through which the propellant is charged will be centered automatically into the O-ring of the filling head. A new developed servo-operated back pressure valve in the filling head cuts gas loss to the irreducible minimum, only the re-

New Container Developed For Pharmaceutical Use

A new stainless steel container, (15cc capacity), is now being manufactured by Emson Research Inc., Bridgeport, Conn.

The container is made from type 304 STAINLESS and is currently being used by a leading Pharmaceutical Company for a product soon to be marketed thru drug stores throughout the country.

It has many advantages over glass types now being used; although smaller in size than the 10cc glass bottle, Emson's steel container actually has a larger capacity. The top is necked or grooved, and the regular bottle type valve is attached in the usual manner using standard equipment. The advantages of a steel container are: it is much lighter in weight; can be bulk packed for shipping (less handling and packing cost); will not shatter and therefore is safer for the consumer as well as the product filler; higher pressures can be used thereby permitting wider latitude for formulating products, more resistance to corrosion than other types of metal containers, and can be easily handled and operated.

Emson's NEW STAINLESS container together with the Emson metering valve — that is dispensing just the right amount of product plus the "guarantee" of a minimum number of applications —offer definite advantages for the consumer. Manufacturers of pharmaceutical products, in which accurate "dosage" is essential, will find this complete package a distinct advantage. Similar advantages apply to the perfume and toiletgoods people who wish to successfully market their products in aerosols, the Push-Button package which has been so enthusiastically accepted by the consumer.

Additional information regarding this stainless steel container may be obtained by writing:

EMSON RESEARCH, INC.
118 Burr Court Bridgeport, Conn.

(Advertisement)

Since 1953

A Confidential Consulting Service Devoted To All Phases Of Aerosol Technology And Service With Complete on-Premises Laboratory Facilities

Development	*Testing*	*Service*
Formulation	Physical	Plant Layout
Mechanical Components	Chemical	Equipment Checkout
Processes	Shelf Life	Personnel Training
	Legal Compliance	Customer Service
	Comparative Evaluation	Pilot Run Packaging

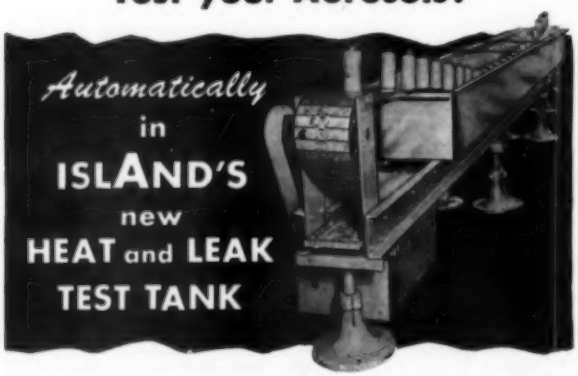
ROBERT A. FORESMAN, JR.

Aerosol Consultant

"clients' service — my only obligation"

1690 Margaret Street **Phila. 24, Penna.**

Test your Aerosols!



Stainless steel Rex Table-Top chain, available in various widths for single or double lines of cans...and the cans are prevented from slipping on the incline and decline by magnets attached to the chain track. The tank itself may be constructed in hot dipped galvanized or stainless steel, and the unit serves as both a heat and leak test tank.

FREE! MAIL THIS COUPON FOR FULL DETAILS

Island Equipment Corp.
27-01 Bridge Plaza North
Long Island City 1, New York
Dept. AA-2

Please send particulars on new HEAT and LEAK TEST TANK

COMPANY.....

NAME.....

ADDRESS.....

CITY..... STATE.....

POLYETHYLENE TUBING FOR AEROSOLS

now available in neatly traversed spools — eliminate Kinks and Snarls!

Available on spools in lengths up to 3000 feet. Prevent costly delays. Will save you time and money. HYDRALENE NO. 35 polyethylene tubing will not split or crack, even with tight friction fits.

Features:

- **Only finest quality virgin material.**
- **Close tolerances.**
- **Withstands severest tests for non-splitting or cracking.**
- **Also available in coils or cut pieces.**

This tubing is the result of years of careful development work in the aerosol field.

Write today for free samples and PRICES.

Hydrawlik Co.

PIONEER IN PLASTIC TUBING SINCE 1927

131 East First Ave. **Roselle, New Jersey**

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maining gas in the valve stem after the filling head is withdrawn being lost. This gas loss depends on the type of valve employed and of course is constant, regardless of the quantity of gas charged. Each complete filling operation consumes six liters of compressed air. With a 6:1 ratio between the operating and charging cylinders, the recommended operating pressure of 10 atmospheres provides a charging pressure up to 80 atm., depending on the type of valve employed. With a suitable valve for pressure filling, charging time is about two seconds per 100 grams.

With the forward movement of the slide-feed mechanism on the base of the machine, the at-random placed container is grasped by the flanged guides, which position it under the automatic centering collar on the filling head. The filling head then descends 25 mm. over the container and completes the charge. Withdrawing the slide raises the filling head, but the filled container remains in place till the next can to be filled pushes it forward. The semi-automatic models are operated with only two movements: one to place the container and the other to push or withdraw the slide, the air controls being built in underneath the slide mechanism. In pressure filling, the product charge and valve clinch can be worked separately prior to the propellant charge, permitting one operator to handle all operations where production demand is not large. Sizable production runs can be handled by two operators, one to fill product and clinch valve as well as handle the containers to and from the test bath, and another to operate the propellant charger.

On request the machines will also be delivered as a fully automatic unit on a common base, with a conveyor transport system that conveys the containers from one station to the next (the valve being inserted by hand between the product fill and valve crimp). Otherwise, the three individual machines can at any later date be converted to a fully automatic line by changing the controls and adding the transport line. With two propellant chargers handling two different types of propellants, if desired, production capacity is vastly increased with an investment cost still well below that of a cold filling line.

Capacity considerations should always include three factors: 1) propellant charging time, 2) propellant loss and 3) total operating and installation costs. Weighed against these factors, most pressure filling equipment (up to the present time) has been found wanting not only in charging time, but in other respects as well. With this new equipment (Druk - Pak Inc., Zürich, Sales — Messrs. Johann Waldherr, Machine Builders, Mannheim, Construction) many of the problems in pressure filling would appear solved, opening the field for further developments in aerosol packing. This development should benefit especially prospective aerosol loaders in Europe and overseas countries in setting up both "captive" and contract filling stations.★

OVER THE TRANSOM

A NOVEL public relations technique has been developed at the main office of the Risdon Manufacturing Co., Naugatuck, Connecticut. Visitors are asked to give their initials to the receptionist. Upon completion of the call they are presented with a box of attractive personal monogrammed book matches. The only mention of the firm name is the Risdon crest inside the cover.

* * *

Carter Products' stepped up advertising campaign for the three "Rise" shaving creams is continuing on national television network broadcasts of NBA professional basketball games. "Rise" commercials sponsored a good share of the NBC TV time for the Saturday afternoon NCAA football broadcasts last fall, and this new campaign is aimed at the winter Saturday afternoon "stay-at-home" male audience. Well-known football and basketball stars give user testimonials.

* * *

Other aerosol manufacturers are also embarking on, or planning, big ad campaigns. Tussy Cosmetiques and Revlon's and Elizabeth Arden's new men's lines will be announced with considerable advertising fanfare. Helene Curtis, not long ago, acquired sponsorship of "Oh Susanna," situation-type television program, and also sponsors "Washington Square and "What's My Line." Bon Ami has announced a new national campaign for '57, and Revlon's big quiz programs continue to dominate the field. Shulton, too, is advertising on national television programs.

All this advertising time is bound to help increase aerosol product acceptability with the public.

* * *

Russia is apparently becoming at least remotely interested in aerosols, if our subscription lists are any indication. Within the last week and a half we have received three subscriptions from government and university libraries in Moscow. At this early date it is difficult to tell whether the interest is purely clinical or whether there will be a new entrant into the European aerosol picture.

* * *

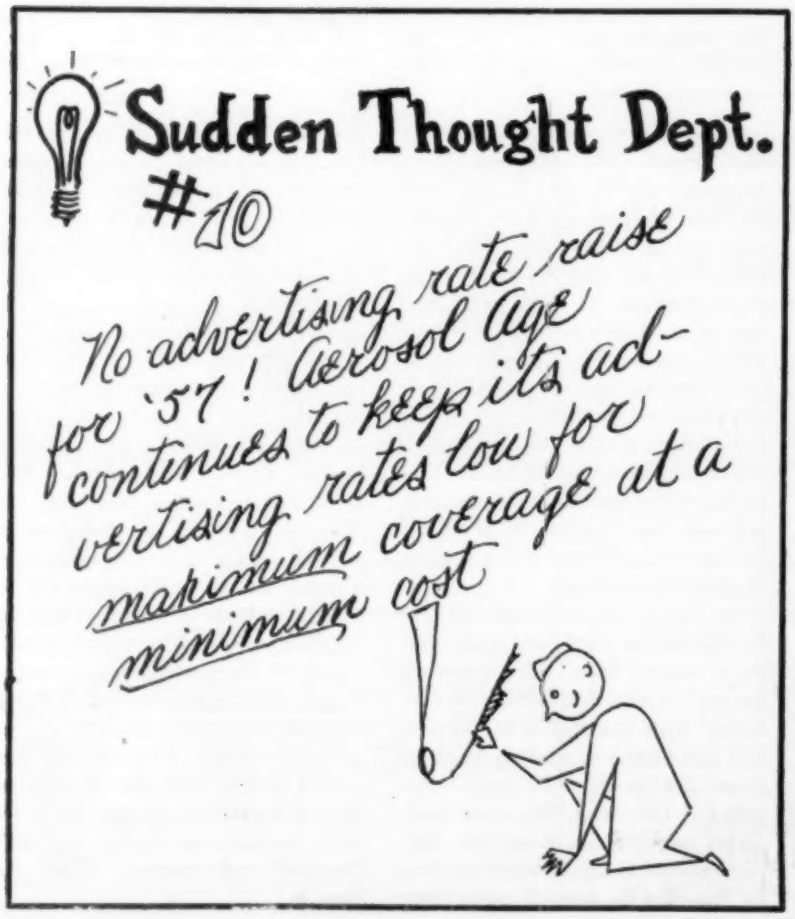
Any questions about sending aerosols through the U.S. mails may, for the most part, be answered by reference to "Shipment of Aerosols," our article in the January issue of *Aerosol Age*. The Postal Manual of the U.S. Post Office Department dated 18 Oct. 1954 states the following: "Within certain limits all aerosols meeting ICC specifications can now be mailed."

* * *

With some products the aerosol industry is growing so fast that it is forced to move right out of doors! Continental Filling's contract to package Jet Bon Ami was so rushed by the sudden popularity of the product that it had to operate an out-door filling line—building a plant addition right over the operating machinery. Luckily, the big rush hit during mid-summer.

* * *

June Havoc, motion picture and television actress, last month filed suit in the N. Y. Supreme Court for $500,000, charging unauthorized use of a television film commercial for the Charles Antell product "Spray Net." She named as defendants Charles Antell, Inc., manufacturer, and Dowd, Redfield, and Johnstone, Inc., advertising agency, charging that a film made originally to be shown in Massachusetts once weekly for 13 weeks in 1954, has since been used in about 25 states without her consent


Sudden Thought Dept.
#10
No advertising rate raise for '57! Aerosol Age continues to keep its advertising rates low for maximum coverage at a minimum cost